Illinois Department of Transportation
Office of the Secretary
300 West Adams Street / 2nd Floor / Chicago, Illinois / 60606
Telephone 312/793-2242

April 30, 2007

Mr. Thomas M. McNamara
Office of the Assistant Secretary for Transportation Policy
U.S. Department of Transportation
Room 10305 (P-20)
400 7th Street, SW.
Washington, DC 20590

Re: Chicago Metropolitan Urban Partnership Application

Dear Mr. McNamara:

On behalf of the Chicago Metropolitan Urban Partnership, the Illinois Department of Transportation hereby submits the Chicago area's proposed Urban Partnership Agreement and associated proposals for funding under the U.S. Department of Transportation's National Strategy to Reduce Congestion on America's Transportation Network. We appreciate this opportunity to compete and hope you will agree that our team is highly capable and committed to carrying out the proposed project. It will significantly improve the movement of goods and people in our region, serving as a national model with innovative approaches that other metropolitan areas can build upon.

The seven counties of northeastern Illinois have numerous governmental units, many of which cross multiple jurisdictions, which are involved in providing transportation services to more than 8 million residents. The enclosed proposal represents a unique commitment by all transportation providers, from the State of Illinois to local communities, from highways to public transportation, and from public to private partners. Collectively, these members of the Chicago Metropolitan Urban Partnership are committed to implementing a multi-faceted, comprehensive approach to tackle congestion in the City of Chicago's Central Business District (CBD) and in the region's I-90 and Southwest corridors.

Our strategy includes:

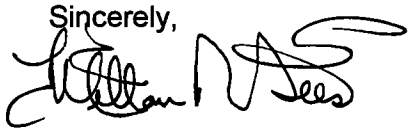
- Implementation of broad, advanced technology measures to enhance efficiency system-wide;
- Various congestion pricing policies, including tollway congestion pricing;
- Enhanced transit, bicycle, and pedestrian services;
- Expanded business partnerships implementing various travel-demand reduction measures.

We believe the Chicago Metropolitan Urban Partnership proposal is a bold and comprehensive approach to reducing congestion. A particular strength of our approach is that it supports all modes of transportation, using public/private partnership to achieve maximum impact and efficiency. Our partners have a record of long-term success in developing and implementing innovative transportation solutions, and we look forward to collaborating closely with the U.S. Department of Transportation through an Urban Partnership Agreement that supports the Department's national Congestion Initiative.

This Partnership has consulted with senior staff to Illinois Governor Rod Blagojevich and Chicago Mayor Richard M. Daley. We believe we can implement the proposed program quickly to effectively reduce congestion.

Thank you for the opportunity of responding to your request for proposals, and please let us know whether we can be of assistance in any way. If you need any additional information please contact Mr. David Spacek at the Illinois Department of Transportations Division of Public and Intermodal Transportation. He can be reached by email at david.spacek@illinois.gov or by phone at (312) 793-2154.

Sincerely,



Milton R. Sees
Acting Secretary

Chicago Metropolitan Urban Partnership

Proposal to Reduce Transportation System Congestion in Northeastern Illinois

Submitted to the

United States Department of Transportation

April 30, 2007

by the

Chicago Metropolitan Urban Partnership Executive Summary

Need to Address Chicago Area Highway Congestion
Metropolitan Chicago's congestion is among the worst in the nation. Monitors show that for more than 11 hours per day, more than 20% of our highway system is congested. Peak-period travel times are 150% of free-flow times. Moreover, unstable traffic flow, crashes, disabled vehicles, and other problems cause variations in travel times, requiring more time to be budgeted for trips.

Congestion's costs in our area are significant. The United States Department of Transportation estimates the annual cost of transportation system congestion in metropolitan Chicago at $11.0 billion, of which 87% is related to highways. This expense includes direct costs of delay, productivity losses, environmental impacts, crashes and injuries, higher freight handling costs, and extra time budgeted for travel time variation (Wells, November, 2006).

Chicago Partnership Proposes Action
The Chicago Metropolitan Urban Partnership represents a commitment by the Illinois Department of Transportation, the City of Chicago, the Illinois State Toll Highway Authority, regional transit agencies, other local governments, and local business and civic groups to aggressively address congestion. The Partnership recognizes that various types of congestion mitigation and congestion pricing can be efficient and effective methods to reduce congestion, and intends to implement a combination of these if we are selected as an urban partner. The Partnership proposes actions in the Chicago Central Business District (CBD) and the Interstate 90 and Southwest Corridors. This submittal outlines the actions proposed by the Partnership.

The region is also committed to studying additional congestion mitigation options, but implementation requires significant preparation concerning public involvement, infrastructure, and supporting services, subject to more discussion.

Higher peak-period parking prices are proposed within the Chicago CBD to further reduce congestion. Some freight operations in the congested CBD would be curtailed during the peak period.

Along the tolled sections of I-90 (the Northwest Tollway and the Chicago Skyway), the Partnership proposes to identify and implement congestion pricing opportunities. Congestion pricing in locations where it is facilitated by existing toll collection facilities will have beneficial impacts throughout the corridor.

Congestion reduction in the CBD and on the I-90 and Southwest Corridors will be supported by integrated corridor management using technology and information to reduce delay. This approach will include substantial new suburban transit and improved urban transit operations. Travel demand will be managed to mitigate congestion.

Congestion in Metropolitan Chicago's Transportation System

Scope and Scale of Chicago Area Traffic Congestion

Traffic congestion in the Chicago metropolitan area is severe in intensity, widespread in extent, long in duration, and persistent in frequency. Metropolitan partners have extensive data collection and analysis programs in place to measure and manage system performance. These data help demonstrate the severity of Chicago's problem. Data highlights are presented below.

An Introduction: National Data Comparisons

When compared with other metropolitan areas, the Chicago area's congestion is among the worst in the nation. The Texas Transportation Institute's (TxTI's) frequently quoted *Urban Mobility Report* allows comparisons of congestion between regions. This report's Travel Time Index is the ratio of travel time in the peak period to travel time under free-flow conditions (60 mph on freeways and 35 mph on principal arterials). The 2003 Travel Time Index for Chicago was 1.57, ranking number two among U.S. cities, second only to Los Angeles-Long Beach (TxTI, *Urban Mobility Report, 2005)*. The Texas Transportation Institute also calculates the annual delay per peak-period traveler. TxTI estimates metropolitan Chicago's annual delay per peak-hour traveler at 58 hours per year, ranking 7th nationally. These data demonstrate the intensity of the Chicago area's traffic congestion problem.

The newer, more focused "Urban Congestion Report" also shows significant congestion in Chicago compared to 19 other congested cities. Table 1 shows results for the reporting period November 2006 - January 2007.

Table 1
Urban Congestion Report Comparison, November 2006–January 2007

Measure	Chicago	Chicago Rank	National Composite	Explanation of Measurement
Congested Hours	11.6	Worst	5.980	Hours per day when 20% of system is congested
Travel Time Index	1.44	Third Worst	1.367	Ratio of peak-period travel time to free-flow travel time
Planning Time Index	2.01	Fourth Worst	1.834	Factor showing extra time to set aside for on-time arrivals because of travel time variation

Source: USDOT *Urban Congestion Report*, November—January 2007, National Executive Summary, Final.

Congestion in Metropolitan Chicago's Transportation System (Continued)

Intensity of Congestion:
The region's transportation agencies collect and maintain data revealing substantial congestion in the regional transportation system. Regional travel model results show that congestion is severe. Table 2 shows a regional summary, and indicates that the problem is particularly acute in low-income and minority communities.

Table 2
2005 Travel Speeds By Income Level

Ratio of Zone Income to Regional Mean Income	Freeway / Tollway Speeds (mph)	Arterial Speeds (mph)
<.25	33	21
.25 to .75	38	20
.75 to 1.25	45	27
1.25 to 1.75	46	28
> 1.75	45	27
All	43	26

Source: CATS 2005 RTP/TIP Conformity Analysis, Appendix A, Table 74.

Table 2 shows low daily average travel speeds. Travel speeds are lowest in low-income communities. Minority communities are similarly affected. The data presents network performance within low-income geographies.

Spatial Extent of Congestion:
Congestion is significant throughout Cook County, where nearly two-thirds of the regional population lives, and particularly acute in Chicago, home to nearly one-third of the region's residents. Nevertheless, congestion exists in many parts of the region, and many residents are impacted by traveling through congested areas. Figure 1 shows estimated 2005 speeds by area.

Duration of Congestion:
The duration of congestion is dependent upon the type and location of the facility. Data suggest that the arterial system operates at congested speeds for a greater part of the day than freeways, but there is less variation in travel times overall. Freeways have substantial variation by location and direction.

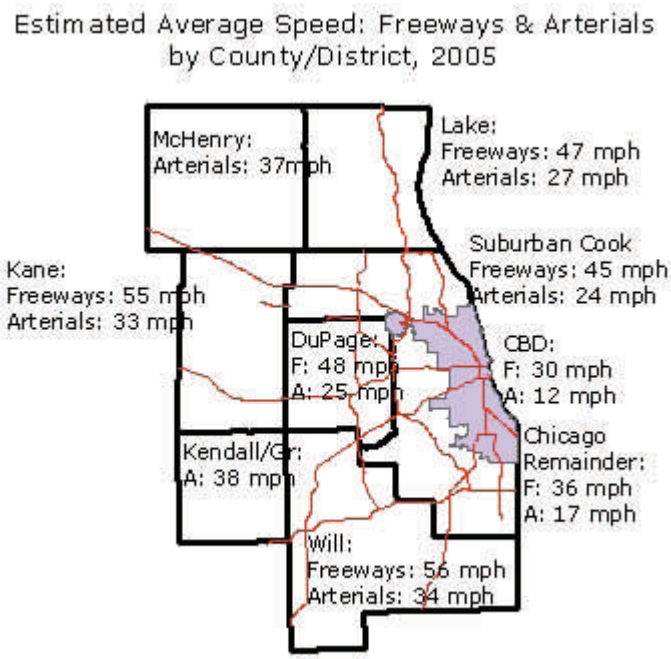
Table 3 and Figure 2 show average and 95th percentile travel times for selected facilities. Such data can be used to develop strategies for particular corridors.

Congestion in Metropolitan Chicago's Transportation System (Continued)

Figure 1 shows low speeds in the CBD and in the City of Chicago. The *2006 CMS Status Report* supported these numbers with an analysis of congested Vehicle-Hours Traveled (VHT). Congested VHT was most significant in the City of Chicago, Lake County, Suburban Cook County, and DuPage County.

Table 3 shows regional congested speeds through much of the day, particularly for arterials. However, variation in travel times is greater on freeways, both by time of day and within each time of day (see Figure 2, as an example).

Figure 1



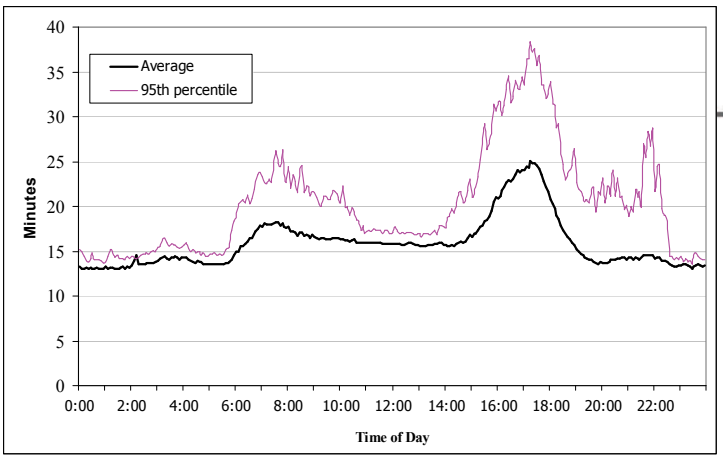
CATS 2005 RTP/TIP Conformity Analysis, Appendix A, Table 70.

Table 3
Regional Speed by Facility Type by Time of Day

Facility Type	8p-6a	6a-7a	7a-9a	9a-10a	10a-2p	2p-4p	4p-6p	6p-8p
Arterial	28	27	24	26	26	26	25	27
Freeway	51	45	36	42	43	41	40	48

CATS 2005 RTP/TIP Conformity Analysis, Appendix A, Table 70.

Figure 2
Sample Average and 95th Percentile Travel Times: I-55 Outbound



Source: CATS, Congestion Management System for Northeastern Illinois, 2006 Status Report. P. 3-14 Data is shown for July 2004 to June 2005.

The Local Public's Acknowledgement of the Congestion Problem

Metropolitan Chicago has more than eight million residents. The core values articulated by these residents include their personal mobility and accessibility to their homes, businesses, schools, and communities (*2030 Regional Transportation Plan)*. Mobility of people and goods strengthens our economy. Yet traffic congestion threatens mobility and accessibility by increasing travel time and travel costs. Incidents, including traffic crashes, breakdowns, and other disruptions, add to the time people must set aside to take a trip and arrive on time.

A poll that was part of the public involvement process for the 2006 update to the Regional Transportation Plan indicated that "improved traffic congestion management" ranked 4.2 on a 5 point scale for importance. This poll also showed that about 86% "supported increasing overall levels of funding for transportation," but not at the expense of other programs, and not just for "repair and rebuilding" (*Public Priorities for Regional Transportation Investment,* p. 18). This seems to indicate a desire for "value for money," real improvements in return for better financing.

Chicago residents are voicing their opinions about congestion in formal surveys, opinion polls, and in active participation in the transportation planning process. Public involvement activity by the Chicago Area Transportation Study summarized in the *2006 Congestion Management System Status Report* (p. 2-8) indicated that more than 85% of the automobile users identified traffic congestion as a problem. About half of automobile users also noted "intersection delays" as issues. In addition, while the most frequent suggested improvements were for system expansions, large portions of the responses suggested specific improvements to highway and transit operations and services (pp 2-10 to 2-11).

Likewise, the Illinois Department of Transportation regularly conducts the "*Motorist Opinion Survey."* The Spring 2005 survey found that road closures and detours, current and future transportation projects, travel conditions, and transportation funding and taxation were all issues in which majorities of the public were either "very" or "quite a bit" interested (p. 33).

Local Officials and Community Leaders Are Ready to Take Action: Our Partners

Support for Transportation Improvements

Reducing congestion is a priority for the Chicago region. Most notably, the Chicago Metropolitan Agency for Planning was established in 2005 to make better regional decisions to effectively address congestion and other regional challenges by merging the staffs of the Chicago Area Transportation Study and the Northeastern Illinois Planning Commission. The new regional agency reflects activity of partner agencies. For example, the Mayor of Chicago has established a Traffic Management Authority to better manage arterial highway congestion. The Illinois Tollway has instituted value pricing in the form of higher peak-period tolls for trucks. Transit agencies instituted value pricing by offering substantial discounts and better service for automated fares.

The region has committed substantial projected funds to congestion relief. The region plans to spend $17.9 billion in capital improvements by 2030 to improve and expand the region's transportation system, including $5 billion for arterial, bus, walking, biking and freight strategies. Moreover, the region will spend an additional $47 billion required to maintain the existing system in good working order (CATS, *2030 Regional Transportation Plan*, 2006). Currently, the region has a capital funding shortfall that we are actively seeking to address.

Chicago has been selected as the United States candidate to host the 2016 Olympic Games, partly because of our extensive transportation infrastructure. To assure a successful Olympiad and to assure a continuing positive legacy from the Games, the region is pursuing transportation improvements and increasing our ability to manage our expressway system. Community support behind this effort is strong.

Our Partners

In response to our congestion challenge, many groups have developed strong, long-standing relationships that have led to substantial progress in the past. These parties will form the core of the Urban Partnership. Parties expected to participate in the congestion initiative include the following groups:

Government:
State of Illinois
Illinois State Toll Highway Authority
Regional Transportation Authority
City of Chicago
Cook, DuPage, Kane, Kendall, Lake, McHenry and Will Counties
Pace
Chicago Transit Authority
Council of Mayors
Chicago Metropolitan Agency for Planning
Northwest Municipal Conference

Civic and Advocacy:
Center for Neighborhood Technology
Chicago Metropolis 2020
Metropolitan Planning Council
Chambers of Commerce

University and Private:
University of Illinois at Chicago
Northwestern University
Consulting Engineering and Planning Firms

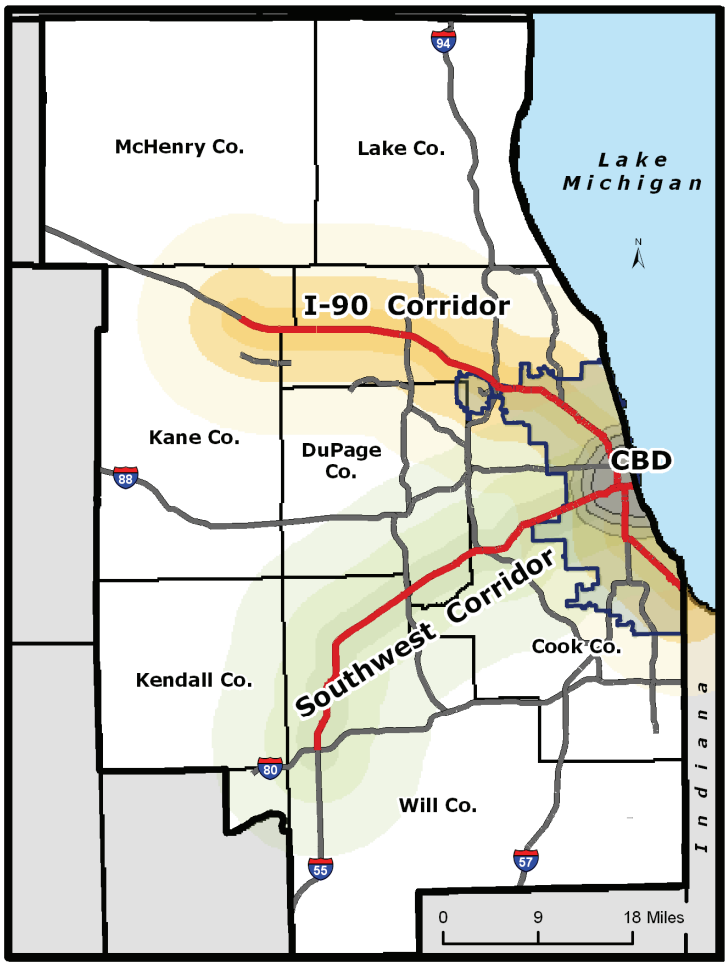
Overview of Proposed Approach: Comprehensive Strategy

Corridor Approach

The Chicago Metropolitan Urban Partnership proposes congestion relief focused in the Chicago Central Business District (CBD), I-90 and Southwest Corridors. The I-90 Corridor ranges from Kane County through Chicago to Indiana. The Southwest Corridor stretches from Will County to Chicago. Some proposals focus on the CBD, and have the impact of reducing congestion in both corridors and regionally.

Our approach will address severe congestion in these corridors and the CBD. These corridors will be regional demonstrations of congestion pricing options and integrated corridor management, including transit enhancements and innovative applications of technology and travel demand reduction. The region is also committed to studying additional congestion pricing options and their congestion mitigation impact on the corridors and region.

Corridor Location Map



Program Goals

The Chicago Metropolitan Urban Partnership has the following goals:

Reduce Travel Times

Reduce Congested Hours

Increase Travel Time Reliability

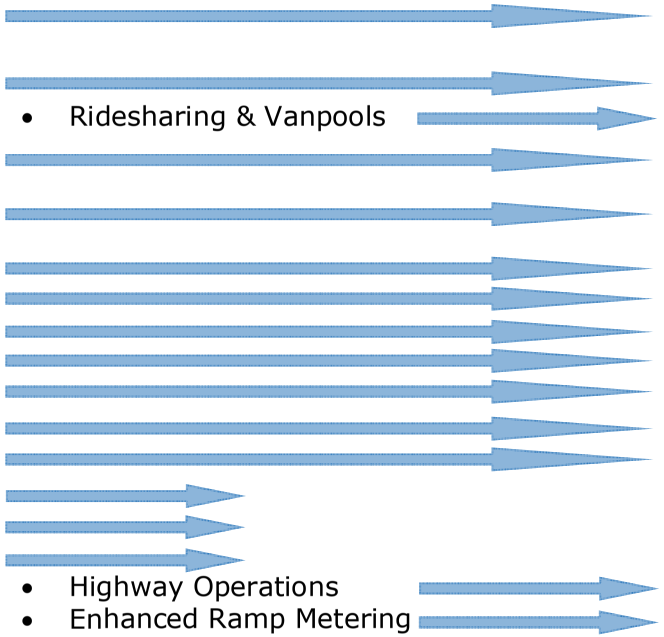
Increase Person Throughput

Reduce Vehicle-Miles Traveled

Overview of Proposed Approach: Comprehensive Strategy

Urban Partnership Program Pilots by Corridor

Corridor:	Central Business District	Southwest Corridor	I-90 Corridor
Transit:	• Enhanced Transit Services • Pedestrian and Bicycle Enhancements	• I-55 Express Bus (Feasibility Study) • Park and Ride Lots • Ogden, Cermak Arterial Rapid Transit on Regional Boulevards (Managed Corridors)	• I-90 Express Bus • Park and Ride Lots • Golf, Milwaukee, Higgins Arterial Rapid Transit on Regional Boulevards (Managed Corridors) • Enhanced Blue Line Transit
Tolling:	• Variable Parking Pricing • Truck Loading Fees • Chicago Cordon Pricing (Study)		• Northwest Tollway I-90 Congestion Pricing (Existing Toll Facility) • Chicago Skyway Toll Bridge Congestion Pricing (Existing Toll Facility)
Telecommuting:	• Flextime Business Partnerships • Telecommuting, with Facilities for the Disabled • Car Sharing	• Ridesharing & Vanpools	
Technology:	• Bus/Train Tracking for Fleet Operation Management • Real-time Passenger Info • Smart Corridors • Transit Signal Priority • Signal Coordination • Parking Management • TMC/Gateway Integration • Targeted Incident Mgmt • New Fiber Optic Backbone • Improved Surveillance • Closed circuit TV	• Highway Operations • Enhanced Ramp Metering	



Comprehensive strategy represents intent, but is subject to negotiation and approval by appropriate authorities. In addition, implementation of all proposals is subject to engineering feasibility studies.

Transit Services
Multi-Corridor

Arterial Rapid Transit and Integrated Arterial Corridor Management
The Partnership proposes implementing planned Arterial Rapid Transit (ART) along project corridors.

I-90 Corridor: Golf Road, Milwaukee Avenue, Higgins Avenue.
Southwest Corridor: Cermak Road, Archer Avenue, and Ogden Avenue.

Arterial rapid transit (ART) services will provide a viable transportation alternative to the single occupancy vehicle. ART operates in mixed traffic on arterial streets. ART integrates strategies for rapid passenger boarding and alighting with high operating speeds. These strategies include low-floor buses, far-side, far-spaced stations, real-time information, and traffic management solutions, such as transit signal priority and queue jump lanes. ART is integrated into the surrounding communities through feeder service. ART will be a backbone of regional boulevards providing multi-modal service with high person throughput.

The Partnership proposes that ART service in a corridor would achieve maximum benefits as part of a integrated arterial corridor management package. Transportation system and demand management strategies in a corridor management package are the keys to increasing the person throughput and economic activity of the corridor.

To increase the travel speed of a mixed traffic transit operation, the Partnership proposes to reduce congestion for all users, through traffic signal coordination, for example. To create an incentive for people to switch from their cars, transit speed must be increased during peak periods when general traffic experiences congestion. To achieve this, the Partnership also proposes transit signal priority coupled with queue jump lanes.

Parking management is an important supporting strategy to improve traffic flow as part of the arterial rapid transit program. This congestion management strategy might include peak-period on-street parking restrictions, complemented with other strategies, such as working with local communities and businesses to relocate parking off-street, improving business and transit accessibility (sidewalks, safe street crossings, illumination, etc.)

Other arterial corridor management strategies to be implemented as part of the integrated corridor management package will include surveillance and incident response, traffic control, lane management, information dissemination, and traffic law enforcement.

Requirements: Substantial (phased implementation beyond 2010). Engineering and economic evaluation; policy and legal actions and approval; substantial engineering and operations improvements; program evaluation and integration; public involvement; public information and signing; mass media promotion.

Transit Services
Multi-Corridor (Continued)

I-90 Corridor Express Buses: Northwest Tollway.
The Partnership proposes express bus service on freeways supported by feeder service. Express bus service would be provided on the Northwest Tollway. This express service will be an interim improvement, building transit market share for a proposed diesel multi-unit rail service.

Requirements: Moderate (expedited implementation of substantial service possible by 2009). Engineering and economic evaluation; potential infrastructure improvements, construction or upgrade of any needed pavement and access points to the lanes, and bridge work; program evaluation and integration; communications infrastructure; public involvement; public information and signing; mass media promotion; operations and maintenance.

I-55 Bus Rapid Transit (BRT) Shoulder Lane Demonstration Project (Feasibility Study)
This study will investigate the use of inside shoulders by fleet bus vehicles on I-55 between Illinois 53 and Damen Avenue. Congestion is severe on this facility and transit times are not competitive. By using wide inside shoulders, transit travel times may be significantly decreased as buses bypass congestion delay.

Phase 1: IDOT will perform a thorough feasibility study on this corridor. The study would specifically assess the safety and physical parameters of the entire route; pavement characteristics; signage and pavement marking requirements; lane separation options; enforcement operations and ingress/egress. In addition, the feasibility study will also examine existing state statutes and administrative rules, and applicable federal rules, codes, regulations, and acts to determine the legality of multi-use of highway shoulders. Independent of the outcome of the feasibility study, IDOT reserves the exclusive right to determine if any of the following phases will be considered for implementation. And by undertaking the feasibility study, IDOT is not committing itself, either intended or implied, to go beyond Phase 1. In the event the feasibility study determines that the use of this right-of-way for BRT is not practical, phases 2 and 3 will not be undertaken.

Phase 2: At the sole discretion of IDOT, Phase 2 would be a BRT express service demonstration between Illinois 53 and Damen Avenue in the Chicago Central Area employing lane-keeping driver assist technology. The BRT would operate on the inside shoulder of I-55 and provide bi-directional service to the CBD, the CTA Orange and Pink Lines, suburban park-n-rides, and employment centers. We would implement lane-keeping driver-assist technology (and corresponding operator training) to allow for use of potentially narrow shoulders.

Phase 3: At the sole discretion of IDOT, longitudinal driver-assist technology

Transit Services
Multi-Corridor (Continued)

would be introduced to establish the ability to operate buses safely with shorter headways. We would also field-test this driver-assist technology in adverse operating conditions.

Rapid Transit Improvements: I-90 Corridor: Blue Line (O'Hare Branch) Service on the Blue Line, providing service to O'Hare Airport in the I-90 Corridor, would be improved. Blue Line tracks will be upgraded to eliminate slow zones caused by deteriorating infrastructure, and will provide faster service.

This rapid transit service provides the core transit service in the northwest portion of the I-90 Corridor. Any program reliant on transit in this corridor requires service improvements on the Blue Line, which has experienced a degradation in service in recent years.

Requirements: Substantial. Engineering and economic evaluation; substantial engineering and operations improvements; program evaluation and integration; public involvement; public information and signing; promotion.

Bus/Train Tracking for Fleet Operation Management
This is an internal use of automatic vehicle location (AVL) technology. AVL enables managers to use this information to make real-time fleet management decisions. AVL also collect large amounts of vehicle data that can be used for system scheduling that reflects realities on the road, including express running and turn-arounds to address bus bunching and, very importantly, connection protection for transfers to and from feeder services or intersecting routes.

Requirements: Substantial. Technical, engineering and economic evaluation; substantial engineering and operations improvements; program evaluation and integration; public involvement; public information and signing; promotion.

Real-Time Passenger Information Systems
Real-time passenger information systems (RTPIS) provide vehicle arrival information to passengers at stations and stops through the Web, visual displays, or audio systems. Such systems improve quality perception by passengers through providing better information and increasing reliability, thus increasing ridership. Regionally integrated information would facilitate transfers. RTPIS requires regionally standardized information dissemination systems (such as LED signs or audio devices) and regional prediction accuracy standards.

Requirements: Moderate (assuming AVL deployment). Technical, engineering and economic evaluation; moderate engineering and operations improvements, including equipment procurement; program evaluation and integration.

Transit Services
Multi-Corridor (Continued)

Transit Supportive Pedestrian and Bicycle Facilities
To support transit service usage, the Partnership proposes to improve pedestrian and bicycle access to transit. Millions of walking trips to transit now take place in the region each weekday. Significant expansion of transit usage will require expansion of the walkable portion of the urban area. Key facilities will include sidewalks, roadway crossings, and transit passenger facilities.

Requirements: Substantial. Engineering and economic evaluation; substantial engineering improvements; program evaluation and integration; public involvement; public information and signing; mass media promotion.

Document continues on the next page.

Congestion Pricing Measures
I-90 Corridor

The Partnership proposes the following congestion pricing measures in the I-90 Corridor. To expedite implementation and to demonstrate benefits, the Partnership proposes to first implement congestion pricing on the Northwest Tollway and the Chicago Skyway Toll Bridge, where congestion pricing is facilitated by existing tolling technology in place.

Northwest Tollway (existing tolled facility)
The Northwest Tollway (I-90) is operated by the Illinois State Toll Highway Authority (the Illinois Tollway). The Illinois Tollway has implemented electronic toll collection system-wide using radio-frequency identification (RFID) to communicate with vehicles via dedicated short range communications (DSRC). Approximately 80% of Tollway customers have acquired transponders, since prices were doubled for cash payments. Thus, toll infrastructure on the Northwest Tollway already facilitates congestion pricing.

The Tollway recently implemented open road tolling for vehicles with transponders so that tolls can be collected while vehicles operate at highway speed. In addition, congestion pricing in the form of higher peak-period prices were implemented for trucks, but preliminary indications are that trucks were not highly responsive to modest peak-period price differentials on the interstate highway system.

Congestion pricing would be implemented at toll collection sites from Elgin to River Road, including the mainline toll collection sites, to maintain high operating speeds on the Northwest Tollway and reduced congestion on the adjacent Kennedy Expressway. Congestion on the Northwest Tollway is focused on three-hour-long peak periods in the peak direction (6:30—9:30 am inbound; 4:00—7:00 p.m. outbound), therefore, pricing changes would focus on higher peak-period fees during these hours. However, as the adjacent Kennedy Expressway shows substantial reverse commute congestion, reverse peak congestion pricing on the Northwest Tollway will be explored to determine effectiveness.

Congestion pricing at toll plazas along I-294 (Touhy and Irving Park only) would be evaluated to determine whether pricing is necessary at these locations to meet program goals along I-90.

Requirements: *Minimal (implementation by 2009 is feasible).* Engineering and economic evaluation; policy and legal actions and approval; program evaluation and integration; public involvement; public information and signing; mass media promotion.

Chicago Skyway Toll Bridge
The Chicago Skyway Toll Bridge (I-90) is operated by Skyway Concession Com-

Congestion Pricing Measures
I-90 Corridor (Continued)

pany, a private company operating under contract with the City of Chicago. The company uses a single barrier stop for toll collection, but has dedicated lanes for automated toll collection. Like the Illinois Tollway, the Skyway uses RFID and DSRC technology. The Skyway accepts both I-Pass and E-ZPass. Transponder use will likely increase on the Skyway when the Indiana Toll Road implements E-ZPass toll collection (interoperable with I-Pass) later in 2007.

Skyway traffic volumes more than doubled from 1995 to 2005. In addition, it feeds traffic into the Dan Ryan Expressway. The Dan Ryan has highly variable traffic times, with northbound traffic congestion occurring from 6:00 a.m. to after 6:00 p.m., and southbound congestion occurring from 3:00 p.m. to 7:00 p.m. Further study will be needed to determine whether congestion pricing on the Skyway would have an impact on the Dan Ryan.

Requirements: Minimal. Engineering and economic evaluation; policy and legal actions and approval; program evaluation and integration; public involvement; public information and signing; mass media promotion.

I-290 High-Occupancy Vehicle Lane / High Occupancy Toll Lane
The new high-occupancy vehicle facility proposed for I-290 between Oak Park and Hillside, in the western suburbs, may provide an opportunity for congestion pricing. The I-290 Corridor is an alternate to I-90 from Schaumburg to the CBD. The partnership proposes to evaluate the I-290 HOV proposal for its potential for use as an High-occupancy Toll (HOT) lane. Excess capacity in the HOV lane could be converted to toll operation, allowing the facility to be used by people who voluntarily prefer to pay a toll in return for the higher speeds. Using price, volumes would be managed to remain at 1500 to 1700 vehicles per hour to maintain highway speeds. The HOT lane would operate for high-occupancy vehicles (free) or for those with transponders. Other users would use the existing I-290 lanes, which would remain free of charge.

Requirements: Substantial. The I-290 project will cost many hundred million dollars. The incremental cost of adding toll collection, even when limited to transponder users as proposed, has not been evaluated. Toll collection gantries would be required. However, video surveillance and other features for HOT lanes may be the same as under the HOV scenarios.

Remainder of Tollway System
The region is committed to study additional congestion pricing, but implementation is dependent on infrastructure preparation, new services and public involvement, and is subject to further discussion. Congestion pricing will be explored within the context of a recently announced Value Pricing Pilot Program grant. This grant will support Partnership activities and facilitate further study.

Congestion Pricing Measures
Chicago Central Business District (CBD)

Variable Parking Pricing

Note: This project is focused on downtown Chicago but has substantial benefits for the region and for all corridors.

The Chicago Central Area contains over 100,000 off-street parking spaces (CATS, unpublished data, 1999). Working with parking owners and operators, the Partnership will implement value pricing for offstreet parking in the central area. Pricing may be based on expressway and arterial congestion, time of day (peak/off-peak), or parking occupancy. The intent is to reduce the congestion load caused by the concentration of vehicles simultaneously entering and exiting central area parking facilities during peak periods.

The City of Chicago currently collects a parking tax. This tax might be modified to be more focused on congestion. Long-term regular parkers tend to be price-responsive, while short-term parkers are less so. Parking operators now respond to these varying price elasticities by providing discounts to long-term parkers, and maintaining very high short-term parking rates. This strategy encourages long-term parking for commuters and reduces short-term parking capacity for travelers who arrive throughout the day for other purposes, impacting downtown business accessibility.

Typical downtown street volumes are 10,000 to 20,000 ADT. However, during the peak period, these streets have substantial congestion. Much of this congestion is caused by traffic operations challenges, particularly the interplay between on-street parking, off-street parking, and freight operations. Thus, the variable parking pricing program will be designed with companion freight initiatives to reduce arterial congestion by rationalizing prices for the use of congested urban space by various users.

The Variable Parking Pricing program will modify consumers' out-of-pocket driving cost to reduce congestion. Previous demonstration projects and experience have shown that consumers are responsive to changes in price, increasing the likelihood of success for a well-designed rate change.

Requirements: Minimal. Engineering and economic evaluation; policy and legal actions and approval; program evaluation and integration; public involvement; public information and signing; mass media promotion.

Truck Loading Fees

Note: This project is focused on downtown Chicago but has substantial benefits for the region and for all corridors.

Truck loading fees for on-street loading zones in the Central Area would be implemented through enhanced applications of the pay and display technology already used by the City of Chicago for on-street parking of private vehicles.

Congestion Pricing Measures
Chicago Central Business District (CBD)

The program will introduce paid truck loading zones in the most congested locations in Chicago's Central Area, with possible extensions to the Southwest Corridor and the I-90 Corridor.

Truck loading zones compete for other uses of busy streets, including both paid auto parking and parking for the disabled. Under the current system, the property owner requests a loading zone and pays an annual fee for use of the public way. Under the proposed system, the annual fee would be replaced or augmented by a pay-for-use system. The ability to increase loading zones will result in less double parking and other conflicts with moving traffic. The effect will be less congestion and smoother traffic flow.

The proposed fee for the Chicago Central Area would be based on congestion. To facilitate and simplify deployment, the initial implementation would set fees based on time of day to reflect existing congestion conditions. Increasing rates per hour would also be applied for longer stays to encourage turnover and assure available space for arriving trucks.

Requirements: Moderate. Engineering and economic evaluation; policy and legal actions and approval; cooperation with building and freight stakeholders; program evaluation and integration; enforcement issues; public involvement; public information and signing; mass media promotion.

Chicago Cordon Pricing (Study Only)

Note: This project is focused on downtown Chicago but has substantial benefits for the region and for all corridors.

This project would evaluate charging vehicles for entering the congested core of Chicago's Central Area, known as the Loop. The feasibility, design, and impacts of a possible pilot program involving cordon based pricing or other congestion pricing options would be evaluated. The City would evaluate vehicle classes (trucks or passenger vehicles) to be tolled, as well as hours of operation, fees to be charged by time of day, etc. For example, a narrow option that would charge only trucks making deliveries in the Loop during hours with greatest congestion (7:30-9:00 AM, 11:30 AM-1:30 PM, 3:00-6:00 PM) could represent the initial program. Broader programs will also be evaluated.

Telecommuting and Travel Demand Management (Multi-Corridor)

Business Partnerships for Flex Time and Staggered Work Hours
The Urban Partnership will interact with the business community including major employers located in the congestion-priced corridors to promote the benefits and encourage the implementation of flex time and staggered work hour arrangements not only as a means of reducing travel delay and congestion, but as a way of increasing goods throughput during peak periods and reducing the adverse effects on business enterprises of traffic congestion.

Ridesharing Promotion
The Urban Partnership will actively encourage the traveling public to explore ridesharing as a cost effective mode choice regardless of how the ridesharers obtain information on potential partners for such arrangements (workplace, official matching sites, social networking forums) and will support capital infrastructural improvements to the expressway and arterial road system that provide travel time (HOV/HOT Lanes) and access advantages (HOV Priority Ramp Metering) to high-occupancy vehicles. The Urban Partnership will encourage businesses in the targeted corridors to provide incentives for employee ridesharing. The Partnership will promote Pace Suburban Bus's www.sharethedrive.org website for carpool matching.

Vanpooling Promotion
The Urban Partnership will actively encourage businesses to explore opportunities for expanding vanpooling amongst employees and to promote Pace's Vanpool Incentive Program (VIP) and other workplace travel services such as Van Shuttles. The Partnership will also promote vanpools to the general public given the increasingly dispersed nature of employment and the increasing prevalence of contract and short term work arrangements.

Car Sharing
The Urban Partnership supports car sharing services, particularly in relation to congestion priced areas. Car sharing reduces the need for parking and driving automobiles to and within a congestion priced area during traditional work hours. Car sharing also reduces the need for and expenses of owning and maintaining personal automobiles by residents of a congestion priced area.

Telecommuting, with a Focus on People with Disabilities
The Urban Partnership proposes telecommuting for the region. Special emphasis will be on provisions for people with disabilities. Greater telecommuting opportunities will increase workforce participation of people with disabilities, reduce the financial burdens of the congestion pricing plan on both user and operator, and also enable reallocation of transit resources from cost intensive paratransit services to line-haul transit services that provide the most effective alternate means of travel through and to a congestion priced area.

Travelers Affected

Counting travelers affected by the Partnership is difficult, but the following is indicative of the scale. The Chicago Central Area, for example, has a high concentration of jobs (more than 600,000). Approximately one-third of the commuters drive alone to work, though this ratio is lower in the transit-rich Loop, and much higher in the Outer Central Area, where transit is less abundant (data from RTAMS, 2007). As is typical for dynamic business districts, non-work trips in the CBD can be expected to be greater than work trips (CATS, *2006 Conformity Analysis*). Traffic volumes (AADT's) of highways approaching the Central Area are high (nearly 300,000 each on the Dan Ryan and Kennedy Expressways; 200,000 on I-290; about 150,000 on I-55; and more than 100,000 on Lake Shore Drive north and south of the Central Area, totaling more than 1,200,000 AADT on six highways). Snapshots of other corridor travel data and travel counts are presented below.

The tables below show rapid corridor growth:

Forcasted REGIONAL TRIP GROWTH in Northeastern Illinois, by PURPOSE, Year 2000 to Year 2030

	Work Trips		Home Based Other	
	Produced	Attracted	Produced	Attracted
2000	6,296,186	6,296,111	13,966,572	13,966,374
2030	7,817,485	7,817,575	18,023,262	18,023,308
% Growth	24%	24%	29%	29%

Forecasted TRIP GROWTH, 2000 to 2030, Selected Collar Counties and Travel Corridor

		Work Trips		Home Based Other	
		Produced	Attracted	Produced	Attracted
Kane	2000	277,916	266,782	610,071	647,894
(Northwest)	2030	489,026	430,455	1,155,905	1,156,182
% Growth		76%	61%	89%	78%
Kendall	2000	39,048	22,834	88,281	69,612
(Southwest)	2030	138,071	103,921	315,222	284,194
% Growth		254%	355%	257%	308%
McHenry	2000	188,742	133,742	401,934	398,472
(Northwest)	2030	324,902	201,293	740,935	659,352
% Growth		72%	51%	84%	65%
Will	2000	347,973	213,923	773,314	656,240
(Southwest)	2030	711,933	507,616	1,763,452	1,430,109
% Growth		105%	137%	128%	118%

The tables at right demonstrate high traffic on the I-90 and Southwest Corridors. I-90 has more than 180,000 AADT on the Northwest Tollway, and 300,000 AADT on the Kennedy Expressway near downtown. Parallel arterials have more than 40,000 AADT each.

I-55 AADT's rise from nearly 100,000 in Will County to over 200,000 approaching the Central Area. I-55 dominates travel to and from the southwest, but sector arterials with AADT's greater than 40,000 include Cermak/22nd, Pulaski, Cicero, Harlem, LaGrange, and others.

Average Daily Traffic in Northwest (I-90) and Southwest (I-55) Corridor Areas

I-90 NW TOLLWAY TRAFFIC VOLUMES	ADT	Truck %
Randall Road to IL Route 31	85,800	12%
Beverly Road to IL Route 59	119,700	6%
Roselle Road to IL Route 53	159,900	6%
IL Route 83 to I-294	182,200	6%
East River Rd to Cumberland Ave	220,800	4%
Harlem Ave to Nagle Ave	197,800	4%
Irving Park Rd to Addison St	300,000	6%
North Ave to Division St	311,900	7%

PARALLEL ARTERIAL VOLUMES > 40,000	ADT
Higgins Rd from Roselle Rd to Plum Grove Rd	40,200
Higgins Rd from Plum Grove Rd to I-290/IL-53	41,900
Golf Road from Roselle Rd to I-290 / IL-53	45,900
Golf Road from I-290 / IL-53 to New Wilke Rd	52,000
Algonquin Rd from Meacham Rd to I-290/IL-53	40,400

I-55 STEVENSON EXP TRAFFIC VOLUMES	ADT	Truck %
I-80 to US 52	84,000	20%
US 30 to IL Route 126	93,000	16%
IL Route 126 to Weber Road	108,000	17%
IIL Route 53 to I-355	134,000	17%
Cass Ave to IL Route 83	160,900	16%
County Line Road to I-294	171,700	15%
IL Route 171 to Harlem Ave	156,700	16%
Cicero Ave to Pulaski Rd	179,300	12%
California Ave to Damen Ave	200,600	9%
Ashland Ave to I-90 / I-94	162,200	11%

CORRIDOR ARTERIAL VOLUMES > 42,000	ADT
22nd St from Butterfield Rd to IL Route 83	42,000
Butterfield Rd from Highland Ave to 22nd St	45,900
Butterfield Rd from I-355 to Highland Ave	52,300
Butterfield Rd from IL Route 53 to I-355	42,800
Pulaski Rd from 79th St to 71st St	48,300
Cicero Ave from 55th St to Archer Ave	61,800
Harlem Ave from 63rd St to Archer Ave	49,600
US Rt 12/20/45 from IL Route 171 to I-55	67,400
IL Route 83 from I-55 to 75th St	51,600

Use of Technology

Metropolitan Chicago will expand and integrate technology available to manage its transportation system. We will begin by using existing technology infrastructure. Existing Radio Frequency ID and Dedicated Short Range Communications will be used to implement congestion pricing on toll facilities. Existing surveillance and highway signal systems will be used and integrated to improve operations. One important planned improvement is to integrate our county and City of Chicago traffic management centers into the regional ITS Gateway system, the integrated information system that provides data to operating agencies and the traveling public throughout the Gary-Chicago-Milwaukee ITS Corridor. Integration will facilitate response to rapidly changing highway conditions.

Chicago CBD Improvements

Technological expansion includes CTA's system-wide real-time bus tracking capability to improve customer and management information, and facilitating management to control bus bunching. Customer information will be initially distributed via the internet and mobile communications devices, and later to on-street sites such as bus shelters displays. In addition, technologies such as smart corridors, signal coordination improvements, parking management, targeted incident management, surveillance, and closed-circuit TV will also be employed here, all coordinated through the City's traffic management center. Existing fee collection infrastructure will be used to collect new truck loading fees.

Southwest Corridor Technological Improvements

Technology will be deployed to improve service to growing Southwest Corridor populations. Surveillance and closed-circuit television will be deployed on additional congested corridor segments, facilitated by a new fiber optic backbone. New transit service with lane-keeping technology will be studied for the shoulder of I-55. Later, if feasible, suitably equipped freight vehicles may be allowed use of the lane. Integrated corridor management approaches, including "smart corridor technologies," will improve parallel arterial traffic flow. Arterial improvements will include, among other strategies, transit signal priority, arterial variable message signs, parking management, targeted arterial incident management, signal coordination, and surveillance. Arterial improvements with transit are designed to complement improvements on I-55.

I-90 Corridor Technological Improvements

In addition to new express transit service on I-90, alternatives to congestion-priced facilities will be provided on parallel arterials, including Golf Road, Higgins Road, and Milwaukee Avenue. Like on Southwest Corridor arterials, integrated corridor management approaches will be deployed on these arterials. Smart corridor features proposed for deployment include, among other strategies, adaptive signal control, advanced signal systems, lane management, highway advisory radio, and enforcement technologies.

Research, Planning and Experience to Date

The Chicago region has a long history of actively managing the regional transportation system to improve performance. In the 1960's, IDOT was the first agency to experiment with ramp metering. Recently, the region has embraced Intelligent Transportation System technology on its highway and transit systems and has experimented with value pricing.

Pricing experiments to date have focused on facilities where payments are required. The Chicago Transit Authority, Pace, and the Illinois State Toll Highway Authority have all implemented steep discounts (up to 50%) for payments using electronic fare technology (smart cards and transponders). ISTHA's new toll structure was successful and resulted in high (80%) transponder use, which in turn allowed the desired move to open-road, free-flow tolling at all ISTHA toll plazas. Also, ISTHA has experimented with congestion pricing for trucks. While this experiment revealed that truck volumes are not sensitive to small price changes, it demonstrated a willingness to experiment with congestion pricing. Aside from Partnership activities, the region is committed to further evaluation of value pricing, with federal financial assistance for the study. Lastly, the Chicago Metropolitan Agency for Planning (CMAP) is studying congestion pricing through its regional household travel inventory process. The travel inventory will include a stated preference survey evaluating travelers' trade-off between price and time saved. Value pricing was evaluated and recommended in the 2030 Regional Transportation Plan when it was endorsed in 2003.

Chicago also understands technology and information. Chicago was a leader in implementing intelligent transportation systems through the Gary-Chicago-Milwaukee (GCM) ITS corridor. Technological leadership ranges from sophisticated signal systems operated by many agencies to the surveillance systems in place to monitor and manage traffic flow. For example, IDOT was an early leader not only in ramp metering but in placing detectors along its freeway system to monitor speeds and detect incidents. ISTHA followed suit with algorithms to determine segment speeds using transponder data. Both agencies and other agencies are supplementing this data with widespread video feeds and other monitoring in modern traffic management center, all to be linked to the GCM Corridor Gateway Program. The GCM Corridor Gateway is the core of the regional ITS architecture. The GCM Corridor uses the Gateway as an integrated information system to provide data to agencies and the traveling public.

Chicago also has more than a century of large-scale mass-transit use, with extensive commuter rail, rapid transit and bus systems, and a strong support system of shuttles, business support, and support for bicycling, walking, car sharing, and user information. In 2006, there were over 600 million unlinked passenger trips on the transit system, ranking Chicago second in the nation.

Project Schedule and Time Frame Considerations

To implement the Partnership activities, the Partnership proposes the following schedule, subject to approvals:

2007

- Federal and state agreements
- Intergovernmental agreements drafted
- Necessary board endorsements
- Public information and outreach
- Engineering & economic evaluation
- Program evaluation and integration
- Public involvement

2008

- Intergovernmental agreements approved
- Legal authority granted
- Engineering & economic evaluation
- Program evaluation and integration
- Public involvement
- Communications infrastructure

2009

- Engineering & economic evaluation
- Program evaluation and integration
- Public involvement
- Communications infrastructure
- Public information and outreach
- Construction
- Phase-in of program elements not requiring construction

2010

- Engineering & economic evaluation
- Program evaluation and integration
- Public involvement
- Communications infrastructure
- Public information and outreach
- Construction
- Phase-in of construction and non-construction program elements

2011

- Program evaluation and integration
- Public involvement
- Complete phase-in of substantial part of program elements

Time Frame Considerations

The Partnership recognizes that USDOT is seeking urban areas to implement comprehensive congestion reduction strategies, including congestion pricing, within a very short time frame (2—3 years). Thus, congestion pricing is best implemented where toll collection technologies are in place. We intend to implement these elements by 2009. Longer-term, broader implementation of congestion pricing is subject to further research, discussions, and negotiations, especially if Chicago hosts the 2016 Olympic Games.

As a national model of a fast-track implementation of technology and congestion pricing, the Illinois State Toll Highway Authority stands alone. A comprehensive program of congestion relief, "Open Roads for a Faster Future," was developed and approved by the ISTHA Board within 21 months of new gubernatorial leadership. New rates, including significant value pricing features, took effect in three months, on January 1, 2005. By November 1, 2006, within 22 months, all twenty main-line toll plazas were equipped with free-flow mainline

Time Frame Considerations (Continued) Funding Support

toll collection ("open road tolling"). Fast-track implementation is possible.

Some Partnership activities may require legislation, and while attorneys have been consulted throughout this process, a comprehensive legal review of new necessary authority has not been conducted. However, most of the proposed program, including congestion pricing components, are unlikely to require legislation. If new legislation is required, it would most likely take place in the 2008 legislative session.

No board or agency approvals have yet occurred. If metropolitan Chicago is selected as a Partnership, these approvals will be sought as soon as possible.

Capital elements, assuming expedited engineering, would be under construction from 2009 to 2015. Further analysis of congestion pricing and freeway management is also expected. Chicago has been selected by the United States Olympic Committee to be the United States prospect to host the Olympic Games in 2016. Thus, all congestion relief and transportation management activities should be fully implemented in time for the 2016 games.

Proposed Funding Support:

The Chicago Metropolitan Urban Partnership seeks the following (federal share, in thousands):

Fund Source:	VPP	ITS-OTMC	5309	TCSP	Match	Total
Variable Parking Pricing	4,400				1,100	5,500
Chicago CBD Cordon Pricing Study	720				180	900
Commercial Vehicle Loading Fee	5,600				1,400	7,000
I-55 BRT Shoulder Lane Demonstration Project		600			150	750
Northwest Tollway I-90 Congestion Pricing (Existing Toll Facility)	35,468					44,335
Chicago Skyway Toll Bridge Congestion Pricing (Existing Toll Facility)	TBD					TBD
CTA Bus Replacement Program			13,791			
Park and Ride Lots			8,000		2,000	10,000
I-90 Express Bus	4,800		88,640		23,360	116,800
Bus Arterial Rapid Transit on Regional Boulevards	8,640		268,792		69,358	346,790
ART and Express Bus Feeder Routes	2400		5,936		2,084	10,420

Funding Support

The Chicago Metropolitan Urban Partnership seeks the following (federal share, in thousands):

Fund Source:	VPP	ITS-OTMC	5309	TCSP	Match	Total
Enhanced Blue Line Transit				80,000	20,000	100,000
Pedestrian Transit Access				1,120	280	1,400
Bike Station: Self Service Bicycle Rental Program				1,280	320	1,600
Pedestrian Countdown Signals		728			182	910
Chicago Flextime business partnerships and Telecommuting Programs				1,760	440	2,200
Suburban Telecommuting, Ride-sharing and Vanpools	2,400				600	3,000
Car Sharing	439			400	130	1,079
Bus Tracker		34,978			8,744	43,722
Train Tracker		5,219			1,305	6,524
Smart Corridors		22,052			5,513	27,565
Transit Signal Priority						
Signal Interconnects		35,100			8,775	43,875
Signal Optimization		1,642			410	2,052
Parking Management		600			150	750
Gateway—City/County Traffic Management Center Integration		5,630			1,408	7,038
Targeted Incident Mgmt		6,016			1,504	7,520
New Fiber Optic Backbone		3,400			850	4,250
Improved Surveillance		4,800			1,200	6,000
Closed Circuit TV		1,800			450	2,250
Total	$64,867	$122,565	$385,159	$84,560	$151,893	$804,230

Contact Information

Questions about this Urban Partnership Agreement submittal may be addressed as follows:

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The following key people helped prepare this submittal and related grant applications. Contact should be coordinated through Mr. Spacek, above, but contact information is provided here for reference.

Urban Partnership: Key People

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CHICAGO METROPOLITAN URBAN PARTNERSHIP

SUBMITTAL FOR BUS AND BUS-RELATED FACILITIES DISCRETIONARY PROGRAM GRANT (Congestion Initiative)

SUBMITTED BY THE
ILLINOIS DEPARTMENT OF TRANSPORTATION
300 W ADAMS ST 2ND FLOOR
CHICAGO IL 60606

APRIL 30 2007

NOTE: THIS SUBMITTAL SUPPORTS ASSOCIATED URBAN PARTNERSHIP SUBMITTAL AND RELATED GRANT SUBMITTALS

Illinois Department of Transportation

1. Applicant Information

The applicant for funding under this announcement is the **Illinois Department of Transportation**. The point of contact for the submittal is:

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FTA Recipient ID Number: 1177

2. Project Description

a. Project Selection Criteria Addressed

The Chicago Urban Partnership responds to the following selection criteria laid out in the solicitation of applications.

(1) Effect of Congestion Reduction Demonstration:

The Chicago Metropolitan Urban Partnership intends to institute road pricing on two sections of I-90 so that, by policy, price mechanisms will eliminate recurrent congestion. Congestion pricing will also be implemented by parking and loading fees in Chicago's central business district. These measures will reduce travel demand and smooth traffic flow. By smoothing traffic flow, crashes and incident delay will also be reduced. Congestion pricing in these corridors will be facilitated by accompanying transit and travel demand reduction ("telecommuting") strategies to reduce auto travel demand. The Partnership will also deploy technological innovations to improve traffic flow and to detect incidents for quicker response.

Transit improvements, telecommuting, and technology will also be implemented in the Chicago region's southwest corridor. These improvements are likely to reduce travel demand and smooth traffic flow.

Thus, the Partnership is proposing a congestion reduction demonstration that will, by design, reduce congestion. I-90, for example, "breaks down" daily, running at level of service F. The Partnership intends that road-priced sections will run at level of service C or D (free-flow).

(2) Transit Service Improvements:
The Chicago Metropolitan Urban Partnership's comprehensive congestion reduction strategy includes several new Pace point-to-point free-flow freeway-speed suburban express and arterial rapid transit services with headways as low as 15 minutes. Many of these services will feed into the Chicago Transit Authority (CTA) Blue Line Service, running along I-90. The Partnership is seeking to improve the Blue Line by the elimination of slow zones afflicting more than 60,000 feet of the line, mostly between O'Hare and downtown Chicago, with speeds as low as 15 miles per hour. Eliminating these slow zones as we propose will reduce downtown to O'Hare running times by 10 minutes or more. Also, CTA is seeking to improve transit service reliability by purchasing 41 new buses and by deploying automatic vehicle location information, for better supervision and for the public.

(3) Necessity of Transit Acquisition for Qualitative Benefits
Many of the proposed services by Pace are designed to be attractive to people who now use their automobiles. Therefore, the quality standards for the new service are expected to be high, with features like branded, modular stations that will include specially-designed bus poles, information kiosks (including system map, schedules and real-time information display), shelters, and benches. Service will be on low-floor buses for easy boarding and alighting.

Without the proposed funding from the Partnership, no progress has taken place in funding these concepts since they were first proposed in 2002.

(4) Necessity of Transit Acquisition for Congestion and Service Benefits
The congestion reduction demonstration depends on viable transit service alternatives to congestion-priced roads. However, aside from federal assistance there are no funds available to finance the proposed capital improvements, except on a very limited, demonstration basis. No Pace services like those proposed currently exist. While the CTA regularly improves service, many reliability and maintenance problems still plague service. Aside from the Partnership, no financial opportunity has presented itself to solve these problems. No new capital assistance for transit has been approved in Illinois since 1999, though transit agencies are now actively seeking such assistance, and remain hopeful.

Thus, the Partnership's proposed congestion reduction demonstration depends on better transit service. Better transit service depends on federal assistance.

b. Description of Congestion and Overview of Metropolitan Chicago's Congestion Reduction Demonstration

(1) Demonstration of Severity of Chicago Area's Traffic Congestion
Metropolitan Chicago's congestion is among the worst in the nation. Monitors show that for more than 11 hours per day, more than 20% of our highway system is congested. Peak-period travel times are 150% of free-flow times. Moreover, unstable traffic flow, crashes, disabled vehicles, and other problems cause variations in travel times, so travelers must budget additional time for trips.

Congestion's costs in our area are significant. The United States Department of Transportation estimates the annual cost of transportation system congestion in metropolitan Chicago at $11.0 billion, of which 87% is related to our roads. These losses include direct costs of delay, productivity losses, environmental impacts, crashes and injuries, higher freight handling costs, and extra time budgeted for travel time variation (Wells, November, 2006).

Because the nation relies on Chicago for much of its freight movement, and because transportation is so important to Chicago's trade and industry, congestion costs present a particularly critical threat to Chicago.

Traffic congestion in the Chicago metropolitan area is severe in intensity, wide-spread in extent, long in duration, and persistent in frequency. Metropolitan partners have extensive data collection and analysis programs in place to measure and manage system performance. This data helps demonstrate the severity of Chicago's problem. Data highlights are presented below.

AN INTRODUCTION: NATIONAL DATA COMPARISONS
When compared with other metropolitan areas, the Chicago area's congestion is among the worst in the nation. The Texas Transportation Institute's (TxTI's) frequently quoted Urban Mobility Report allows comparisons of congestion between regions. This report's Travel Time Index is the ratio of travel time in the peak period to travel time under free-flow conditions (60 mph on freeways and 35 mph on principal arterials). The 2003 Travel Time Index for Chicago was 1.57, ranking number two among U.S. cities, and second only to Los Angeles-Long Beach (TxTI, Urban Mobility Report, 2005). The Texas Transportation Institute also calculates the annual delay per peak-period traveler. TxTI estimates metropolitan Chicago's annual delay per peak-hour traveler at 58 hours per year, ranking 7th nationally. These data demonstrate the intensity of the Chicago area's traffic congestion problem.

The newer, more focused "Urban Congestion Report" also shows significant congestion in Chicago compared to 19 other congested cities. Table 1 shows results for the reporting period November 2006 - January 2007.

Table 1
Urban Congestion Report Comparison, November 2006–January 2007

Measure	Chicago	Chicago Rank	National Composite	Explanation of Measurement
Congested Hours	11.6	Worst	5.980	Hours per day when 20% of system is congested
Travel Time Index	1.44	Third Worst	1.367	Ratio of peak-period travel time to free-flow travel time
Planning Time Index	2.01	Fourth Worst	1.834	Factor showing extra time to set aside for on-time arrivals because of travel time variation

Source: USDOT *Urban Congestion Report*, November—January 2007, National Executive Summary, Final.

INTENSITY OF CONGESTION:

The region's transportation agencies collect and maintain data revealing substantial congestion in the regional transportation system. Regional travel model results show that congestion is severe. Table 2 (below) shows a regional summary, and indicates that the problem is particularly acute in low-income and minority communities. This fact points very clearly to the necessity of substantially improving transit service when instituting congestion pricing strategies. The two efforts – congestion pricing and providing well designed and efficiently functioning transit options – work together to reduce congestion and improve the quality of life for all residents and visitors, including those who cannot afford to travel alone by automobile.

Table 2
2005 Travel Speeds By Income Level

Ratio of Zone Income to Regional Mean Income	Freeway / Tollway Speeds (mph)	Arterial Speeds (mph)
<.25	33	21
.25 to .75	38	20
.75 to 1.25	45	27
1.25 to 1.75	46	28
> 1.75	45	27
All	43	26

Source: CATS 2005 RTP/TIP Conformity Analysis, Appendix A, Table 74.

Table 2 shows low daily average travel speeds. Travel speeds are lowest in low-income communities. Minority communities are similarly affected. The data presents network performance within low-income geographies.

OTHER DATA:
More information demonstrating and describing the Chicago area's congestion is presented in the Partnership's Urban Partnership proposal (attached).

(2) Public Acknowledgement of the Congestion Problem in Chicago
Metropolitan Chicago has more than eight million residents. The core values articulated by these residents include their personal mobility and access to their homes, businesses, schools, and communities (2030 Regional Transportation Plan). Mobility of people and goods strengthens our economy. Yet traffic congestion threatens mobility and accessibility by increasing travel time and travel costs. Incidents, including traffic crashes, breakdowns, and other disruptions, add to the time people must set aside to take a trip and arrive on time.

A poll that was part of the public involvement process for the 2006 update to the Regional Transportation Plan indicated that "improved traffic congestion management" ranked 4.2 on a 5 point scale for importance. This poll also showed that about 86% "supported increasing overall levels of funding for transportation," but not at the expense of other programs, and not just for "repair and rebuilding" (Public Priorities for Regional Transportation Investment, p. 18). This seems to indicate a desire for "value for money," real improvements in return for additional financing.

Chicago residents are voicing their opinions about congestion in formal surveys, opinion polls, and in active participation in the transportation planning process. Public involvement activity by the Chicago Area Transportation Study summarized in the 2006 Congestion Management System Status Report (p. 2-8) indicated that more than 85% of the automobile users identified traffic congestion as a problem. About half of automobile users also noted "intersection delays" as issues. In addition, while the most frequent suggested improvements were for system expansions, large portions of the responses suggested specific improvements to highway and transit operations and services (pp 2-10 to 2-11).

Likewise, the Illinois Department of Transportation regularly conducts the "Motorist Opinion Survey." The Spring 2005 survey found that road closures and detours, current and future transportation projects, travel conditions, and transportation funding and taxation were all issues in which majorities of the public were either "very" or "quite a bit" interested (p. 33).

(3) The Political Leadership's Readiness to Solve the Congestion Problem
The Chicago region has targeted congestion to reduce its high costs. Most notably, the Chicago Metropolitan Agency for Planning was established in 2005 to make better regional decisions to effectively address congestion and other regional challenges. The new regional agency reflects activity of partner agencies. For example, the Mayor of Chicago has established a Traffic Management Authority to better manage arterial highway congestion. The Illinois Tollway has instituted value pricing in the form of higher peak-period tolls for trucks. Several agencies instituted value pricing by instituting higher fares for time-consuming cash payments while improving service for those with transponders.

The region has also committed substantial funds to congestion relief. The region plans to spend $17.9 billion in capital improvements by 2030 to improve and expand the region's transportation system, including $5 billion for arterial, bus, walking, biking and freight strategies. Moreover, the region will spend an estimated $47 billion through 2030 to maintain the existing system in good working order (CATS, *2030 Regional Transportation Plan*, 2006). Currently, the region has a capital funding shortfall that we are actively seeking to address in part through the initiatives contained herein.

Chicago has been selected as the United States candidate to host the 2016 Olympic Summer Games. To assure a successful Olympiad and to assure a continuing positive legacy from the Games, the region is pursuing transportation improvements and increasing our ability to manage our expressway system. Community support behind this effort is strong.

In response to our congestion challenge, many groups have developed strong, long-standing relationships that have led to substantial progress in the past. These parties will form the core of the Urban Partnership. Parties expected to participate in the congestion initiative include the following groups:

Government:
State of Illinois
Illinois State Toll Highway Authority
Regional Transportation Authority
City of Chicago
Cook, DuPage, Kane, Kendall, Lake, McHenry and Will Counties
Pace
Chicago Transit Authority
Council of Mayors
Chicago Metropolitan Agency for Planning
Northwest Municipal Conference

Civic and Advocacy:
Center for Neighborhood Technology
Chicago Metropolis 2020
Metropolitan Planning Council
Chambers of Commerce

University and Private:
University of Illinois at Chicago
Northwestern University
Consulting Engineering and Planning Firms

(4) The Partnership's Proposed Solution Incorporating Transit, Tolling, Technology, and Telecommuting

The Chicago Metropolitan Urban Partnership represents a commitment by the Illinois Department of Transportation, the City of Chicago, the Illinois State Toll Highway Authority, regional transit agencies, other local governments, and local business and civic groups to aggressively address congestion. The Partnership recognizes that various types of congestion mitigation and congestion pricing can be efficient and effective methods to reduce congestion, and we intend to implement a combination of these methods if we are selected as an urban partner. The Partnership proposes actions in the Chicago Central Business District (CBD) and the Interstate 90 and Southwest Corridors. This submittal outlines the proposal by the Partnership.

Higher peak-period parking prices are proposed within the Chicago CBD to further reduce congestion. Some freight operations in the congested CBD would be curtailed during the peak period.

Figure 1

Along the tolled sections of I-90 (the Northwest Tollway and the Chicago Skyway), the Partnership proposes to identify and implement congestion pricing opportunities. Congestion pricing in locations where it is facilitated by existing toll collection facilities will have beneficial impacts throughout the corridor.

Congestion reduction in the CBD and on the I-90 and Southwest Corridors will be supported by integrated corridor management using technology and information to reduce delay. This approach will include substantial new suburban transit and improved urban transit operations. Travel demand will be managed to mitigate congestion.

3. Proposed Congestion Reduction Demonstration

a. Comprehensive Strategy: General Description

The Chicago Metropolitan Urban Partnership proposes congestion relief focused in the CBD and the I-90 and Southwest Corridors. The I-90 Corridor connects Kane County to Indiana, passing through northwest Cook County and the City of Chicago. The Southwest Corridor stretches from Will County to the Chicago CBD. Some proposals focus on the Chicago Central Business District (CBD), reducing congestion in both corridors and regionally.

Our approach will address severe congestion in these corridors and the CBD. These corridors will be regional demonstrations integrated corridor management, including transit, innovative applications of technology, and travel demand reduction. The region is also committed to studying new congestion pricing options, though implementation requires significant preparation concerning public involvement, infrastructure, and supporting services, and is subject to further discussion. See Table 3, p. 10.

b. Comprehensive Strategy: Program Goals

The Chicago Metropolitan Urban Partnership has the following goals:

- Reduce Travel Times
- Reduce Congested Hours
- Increase Travel Time Reliability
- Increase Person Throughput
- Reduce Vehicle-Miles Traveled

c. Explanation of How Program Elements Would Interact

Tolling – Transit: Congestion pricing would encourage transit use. Road pricing on I-90 would facilitate faster bus speeds. Better transit would allow alternatives to driving alone, making tolling an effective congestion reduction technique.

Telecommuting – Transit: These two elements are mutually supportive insofar as they each facilitate less car dependency.

Technology – Transit: Technology will improve transit reliability by allowing management to address bunching and respond to incidents faster.

Tolling – Telecommuting: Congestion pricing would encourage telecommuting, and reduce single-occupant travel demand. Telecommuting would present an alternatives to driving alone, making tolling an effective congestion reduction technique.

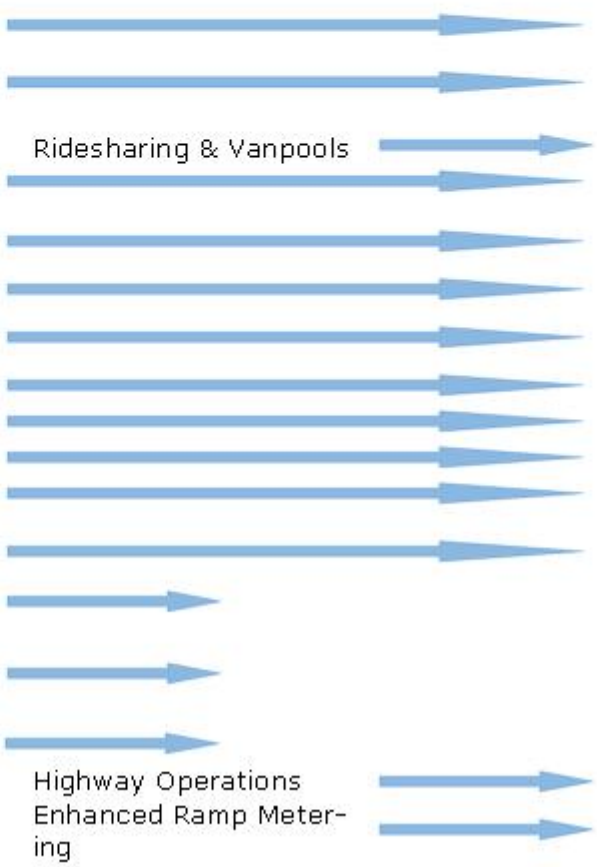
Technology – Telecommuting: Better information facilitates telecommuting and other travel demand reduction techniques.

Technology – Tolling: Modern telecommunications technology makes road-based congestion pricing and other congestion pricing possible. In addition, transponder information helps provide information for incident management technologies.

Table 3: Overview of Proposed Approach: Comprehensive Strategy

Urban Partnership Program Pilots by Corridor

Corridor:	Central Business District	Southwest Corridor	I-90 Corridor
Transit:	• Enhanced Transit Services • Pedestrian and Bicycle Enhancements	• I-55 Express Bus (Study) • Park and Ride Lots • Ogden, Cermak Arterial Rapid Transit on Regional Boulevards (Managed Corridors)	• I-90 Express Bus • Park and Ride Lots • Golf, Milwaukee, Higgins Arterial Rapid Transit on Regional Boulevards (Managed Corridors) • Enhanced Blue Line Transit
Tolling:	• Variable Parking Pricing • Truck Loading Fees • Chicago Cordon Pricing (Study)		• Northwest Tollway I-90 Congestion Pricing (Existing Toll Facility) • Chicago Skyway Toll Bridge Congestion Pricing (Existing Toll Facility)
Telecommuting:	• Flextime Business Partnerships • Telecommuting, with Facilities for the Disabled • Car Sharing	• Ridesharing & Vanpools	
Technology:	• Bus/Train Tracking for Fleet Operation Management • Real-time Passenger Info • Smart Corridors • Transit Signal Priority • Signal Coordination • Parking Management • Traffic Management Centers • Targeted Incident Mgmt • New Fiber Optic Backbone • Improved Surveillance • Closed circuit TV	• Highway Operations • Enhanced Ramp Metering	



Comprehensive strategy represents intent, but is subject to negotiation and approval by appropriate authorities. In addition, implementation of all proposals is subject to engineering feasibility studies.

4. Congestion Pricing Measures and Affected Areas

Congestion pricing will be used to encourage travelers to shift travel from congested to uncongested times of day, from single-occupant vehicle mode to transit, ridesharing, or to alternate, un-priced routes. Congestion-pricing on roads will keep the roads operating reliably at high speeds, thus maximizing vehicle throughput. These reliable high speeds created by congestion pricing will also facilitate high-speed, reliable bus transit operations.

Chicago CBD congestion pricing, e.g., cordon pricing or parking pricing, would serve to reduce peak-period congestion in the CBD and on roads and streets approaching downtown. Non-road congestion pricing measures, including a rationalization of on-street loading zones and parking, will also improve operations on downtown streets. Operations problems are a major cause of downtown congestion that these congestion pricing mechanisms can mitigate.

Below are projections about how congestion pricing would work. These are subject to feasibility studies and detailed engineering, but they represent intent:

a. I-90 Northwest Tollway from Randall Road (Elgin) to I-190 (Chicago):
Set prices so that peak-period level of service changes from LOS F to LOS C or D, subject to further study. Vehicle classes affected will include passenger autos. Application to other vehicle classes will be studied.

b. I-90 Chicago Skyway Toll Bridge from Indiana State Line to I-94:
Pricing policy will be subject to study. Vehicle classes affected will include passenger autos. Application to other vehicle classes will be studied.

c. Variable Parking Pricing
Chicago Central Business District parking taxes will be adjusted to discourage peak-period vehicle use, particularly by commuters. Short-term parking will be more available and potentially less expensive than now. This pricing strategy would apply to passenger vehicles.

d. Truck Loading Fees
Some Chicago Central Business District on-street vehicle parking will be reallocated to truck loading and unloading. These truck loading

zones will be price-managed to reduce peak congestion on CBD approach roads. The expanded loading zones will also reduce the double-parking by loading and unloading trucks that significantly reduces current downtown roadway capacity. This pricing strategy would apply to trucks.

e. Downtown Chicago Cordon Pricing Study

Pricing entry to the congested Central Business District will be studied through a cordon pricing study. Cordon pricing could reduce the travel demand and improve operations on roads in and approaching the CBD. A sketch of one possible cordon line is presented in Figure 2. This pricing strategy could apply to any vehicle class, subject to more study.

Figure 2 – Potential Chicago CBD Cordon Pricing Study

5. Transit Services Proposed for 5309 Funding

The Chicago Metropolitan Urban Partnership proposes numerous improvements to transit, including equipment, facility, technological, and technology/operations improvements. The overall outline of the transit improvements is summarized in previous sections. Those improvements eligible for 5309 funding for which we are propose 5309 funding are outlined below. The program outline shows operating expenses and capital costs;

the 5309 capital request for the Partnership transit program follows in section 6 of this submittal.

a. Bus Arterial Rapid Transit Corridors

The Partnership proposes a variation of bus rapid transit, "Arterial Rapid Transit," (ART), more feasible than bus rapid transit in the conditions prevalent in metropolitan Chicago.

"Bus Rapid Transit (BRT) is a flexible rubber-tired rapid-transit mode that combines stations, vehicles, services, running ways and intelligent transportation system elements into an integrated system with strong positive identity that evokes a unique image. BRT applications are designed to be appropriate to the market they serve and their physical surroundings, and can be incrementally implemented in a variety of environments." Transportation Cooperative Research Program (TCRP), Report 90, Bus Rapid Transit, Vol. I, 2003

Although the infrastructure, vehicle and operation characteristics of individual BRT systems vary, the objectives of BRT reflect that it is a high-quality transit service:

- Reduce transit travel time
- Increase transit reliability
- Increase frequency to reduce waiting time
- Improve transit connections
- Enhance system identity to ease system use by increasing system recognition
- Increase accessibility through low floor vehicles, enhanced infrastructure and quality up-to-date information
- Enhance transit safety and security

These objectives are achieved through the combination of the following elements of BRT:

- An uncongested running way
- Attractive vehicles
- Frequent service
- Convenient route structure
- Expedited fare collection
- ITS:
    - Automatic Vehicle Location (AVL) combined with traffic management systems
    - Transit Signal Priority (TSP), signal coordination
    - Transit supportive services (information systems: web site, maps, real-time information system, on-board announcements)
- Identity branding of infrastructure and vehicle

One of the advantages of BRT is that it can be tailored to serve the local demand and to fit in the local transportation and political environment. A low-cost, mixed traffic BRT system running on arterial streets would have some of the elements of the above list, while a more elaborate BRT, running on its own dedicated right-of-way and serving high demand, would have all these features. The challenge is to develop a BRT project without sacrificing the quality and the system effect of the combination of these features. Pace calls its solution Arterial Rapid Transit (ART).

Due to the fact that BRT is a rubber tired operation it can be developed incrementally in terms of both time and space:

- An initial investment phase would put some of the key features in place, start operation to reap benefits early while additional features are implemented. As demand grows, additional features can be added to increase capacity and to maintain travel time and reliability.
- BRT can be developed by sections. An initial investment phase could open on a short section to reap early benefits while additional sections could be connected later. Furthermore, higher cost elements, such as a dedicated running way can be implemented on portions of the route where it is needed.

Pace is implementing an Arterial Bus Rapid Transit in its Pace Arterial Rapid Transit Network for the Region or PARTNER Program.

Pace's Arterial Rapid Transit Network serves as the high-quality trunk-route for Pace's family of services. It is integrated, on the I-90 corridor, with Pace's proposed Express Bus Service to provide regional connectivity. It is supported by Pace's integrated community services as its feeder service. PARTNER Program's goals are to:

- Connect the region's suburban centers
- Serve growing, non-traditional travel demand directions
- Reduce travel time
- Improve reliability
- Improve frequency
- Simplify transit usage in the suburbs
- Anchor Pace's family of services

The advantages of an Arterial Rapid Transit Network are that it:

1. Reaches the maximum number of people in the region
2. Takes the shortest time to implement out of all rapid transit options, and
3. Takes the least amount of capital expenses to implement out of all options

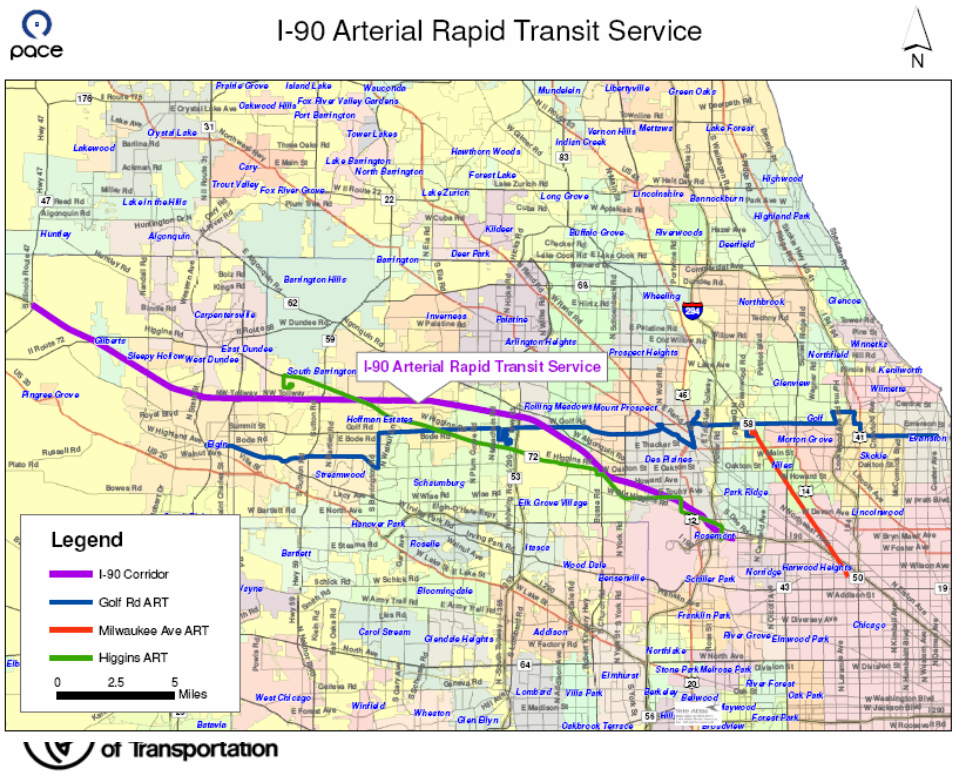
The PARTNER Program is currently under development. It is planned to:

- Operate on arterial street in mixed traffic with short sections of bus-only lanes and queue bypass lanes where necessary to help buses get through congested road sections
- Branded modular stations that will include specially-designed bus pole, information kiosk (including system map, schedules and real-time information display), shelter, bench
- Utilize low-floor buses
- Use corridor-based route structure providing regional connectivity
- Incorporate ITS systems (Automatic Vehicle Location, Transit Signal Priority, and transit supportive services, such as web sites, maps, real-time information, and on-board station announcer)
- Identity branding of infrastructure and vehicle

The ART system will provide a major element in the improvements to transit, which the Urban Partnership proposes and which are necessary in order to relieve any negative impacts that congestion pricing may have on low income populations.

I-90 (Northwest) Corridor

Golf Road Corridor Service (Evanston ←→ Elgin)



Daily service operating on Golf Road between Davis Street CTA Station in Evanston and the Elgin Transport-ation Center in Elgin. Service will also connect Pace services at Northwest

Transportation Center, Woodfield Mall, Cumberland Circle, Des Plaines Metra Station, Golf Mill Mall, Old Orchard, creating new main line service in the Golf Road corridor. Local circulators would be instituted to serve suburban stop locations along with existing fixed route service.

Routing:
Benson Avenue – Davis – Asbury – Church – Skokie – Golf - Old Orchard – Old Orchard Road – Skokie Court House – Harms – Golf – Milwaukee – Golf Mill Mall – Maryland Street – Milwaukee – Golf – College – Oakton Community College – Des Plaines/River Road – Miner – Northwest Highway – State Street – Golf/Wolf Road – Golf – Woodfield Mall – Mall Dr. – Kimberley – Northwest Transportation Center – Martingale – Woodfield Road – Meacham – Golf – Barrington – Schaumburg Road – Irving Park/Chicago Street – Center – Highland – Elgin Terminal

Table 4: Golf Rd Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours	Estimated Annual Cost
39.70	129 - 158 minutes	20 min peak; 30 off-peak	9 peak, 5 off peak	M – F 5 am – 9 pm	$1,853,799 - $2,261,296

MILWAUKEE ROAD CORRIDOR SERVICE (JEFFERSON PARK ←→ GOLF MILL MALL):
Weekday service operating on Milwaukee Avenue between Jefferson Park CTA Station in Chicago to Golf Mill Mall in Niles. Service will connect Pace services at Golf Mill Mall and Jefferson Park CTA Station, creating main line service in the Milwaukee Avenue corridor. Local circulators would be instituted to serve suburban stop locations along with existing fixed route service.

Routing:
Jefferson Park CTA Station – Milwaukee – Golf Mill Mall.

Table 5: Milwaukee Avenue Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours	Estimated Annual Cost
6.79	26 – 30 minutes	20 min peak; 30 off-peak	5 peak, 3 off peak	M – F 5 am – 9 pm	373,633 - $431,115

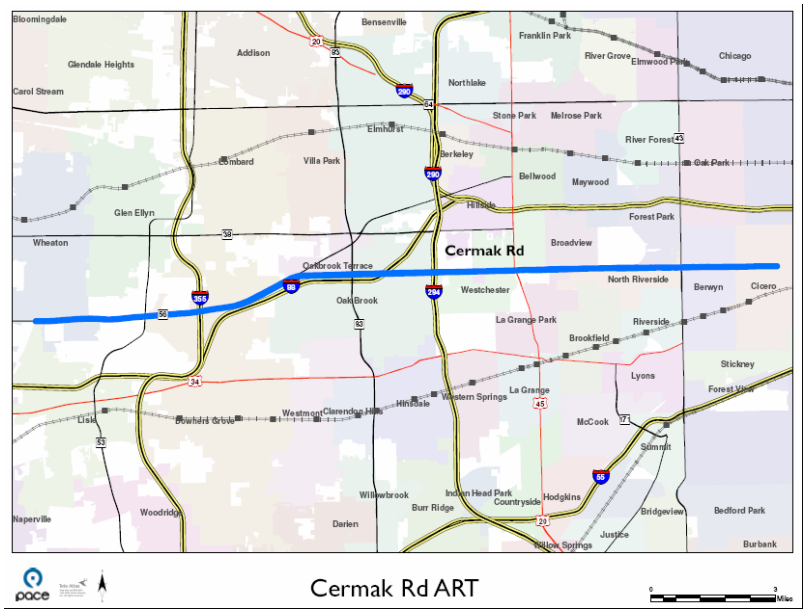
HIGGINS ROAD CORRIDOR SERVICE (PRAIRIE STONE ←→ ROSEMONT CTA)
Daily service operating on Higgins Road between Sears Prairie Stone Hoffman Estates and the Rosemont CTA Station in Rosemont. Service will also connect Pace services at the Northwest Transportation Center in Schaumburg, O'Hare Kiss-n-Fly and Rosemont CTA Station creating new main line service in the Higgins Road corridor. Local circulators would be instituted to serve suburban stop locations along with existing fixed route service.

Routing:
Prairie Stone Transit Center – Prairie Stone Parkway – Higgins – Mall Dr. – Kimberly Drive – Northwest Transportation Center – Martingale – Higgins – Touhy – Higgins – Mannheim Road – Bessie Coleman – O'Hare Kiss-n-Fly – Bessie Coleman – Mannheim – Higgins – River Road – Rosemont CTA Station.

Table 6: Higgins Rd Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours	Estimated Annual Cost
23.29	85 – 94 minutes	20 min peak; 30 off-peak	7 peak, 4 off peak	M – F 5a – 9p	$1,221,495 - $1,350,829

SOUTHWEST (I-55) CORRIDOR

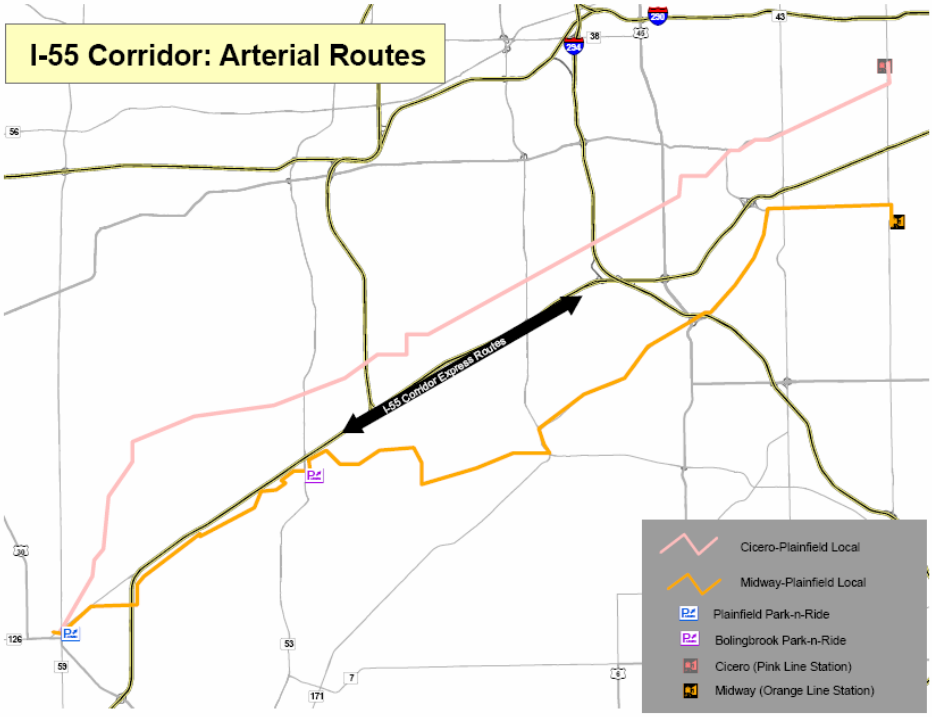


CERMAK ROAD CORRIDOR SERVICE (CICERO ←→ DANADA SQUARE)
Weekday service operating on Cermak Avenue between Cicero and Wheaton, IL. Local circulators would be instituted to serve suburban stop locations along with existing fixed route service.

Routing:
54th Street CTA Station – Cermak Road – Butterfield – Danada Square.

Table 7: Cermak Rd Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours	Estimated Annual Cost
19.5	65 minutes	20 min peak 30 off-peak	7 peak, 4 off-peak	M – F 5 am – 11 pm	$1,500,000



CICERO-PLAINFIELD SERVICE (OGDEN AVENUE)
Weekday service operating on Ogden Avenue between Cicero and the Plainfield Park-and-Ride. Local circulators would be instituted to serve suburban locations along with existing fixed route service.

Routing:
Cicero – Ogden - Plainfield – 47th – East – Plainfield – Lemont – 87th – Oldfield – Boughton – Plainfield-Naperville (end @ Plainfield Park-n-Ride)

Table 8: Cicero-Plainfield Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours	Estimated Annual Cost
31.34	118 – 140 minutes	15 min peak; 30 off-peak	12 buses	M – F 5 am – 9 pm	$3,200,000

MIDWAY-PLAINFIELD SERVICE (ARCHER AVENUE)
Weekday service operating on Archer Avenue between 55th Street (at Midway Airport) and Main Street in Plainfield. Local circulators would be

instituted to serve suburban stop locations along with existing fixed route service.

Routing:
55th – Archer – Main – Stephen – Lemon – Internationale – I-55 Frontage – IL 53 – Old Chicago – I 55 Frontage – Gateway –Crossroads – Normantown – Budler – 143rd – Main

Table 9: Midway-Plainfield Summary

Approximate One Way Mileage	Approximate One-Way Travel Time	Weekday Frequency	Bus Requirements	Service Hours	Estimated Annual Cost
33.12	80 minutes	30 min peak; 60 off-peak	6 buses	M – F 5 am – 9 pm	$1,600,000

b. I-90 Express Bus Service

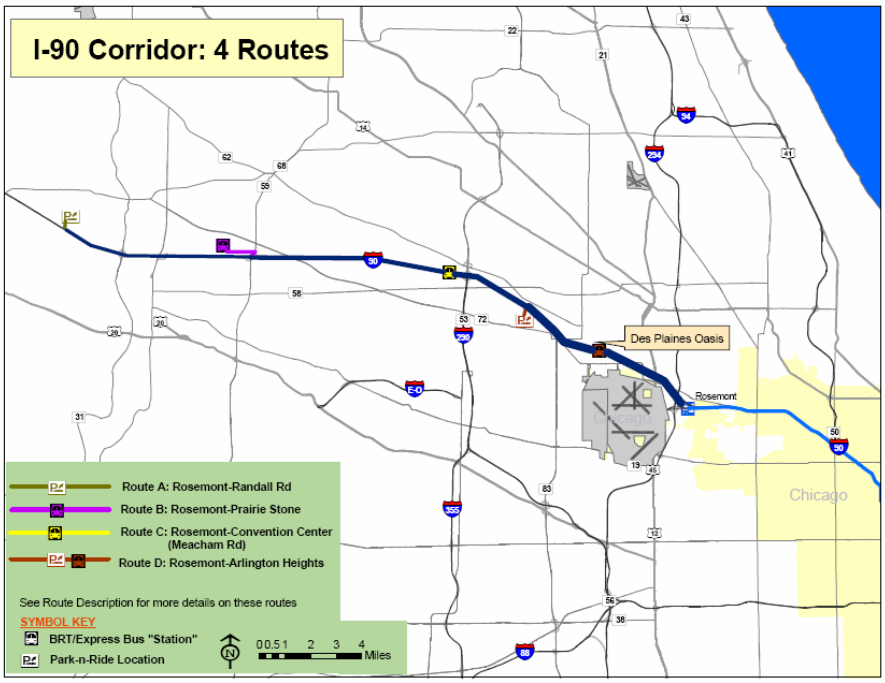
Express bus service will provide direct point-to-point connection between four major nodes along the I-90 corridor and an end-stop at Rosemont (O'Hare Airport and CTA rapid transit). Point-to-point express buses generally take the fastest route between origin-destination points. Such express routes have a cluster of stops at origin and a cluster of stops at destination without stops in between. This allows them rapid travel between origin and destination nodes. The I-90 Express Bus Service will provide a one seat ride between the route defining origin and destination centers.

Since point-to-point express buses take the shortest-time route between origin and destination they utilize expressways, tollways, and highways. Such limited access roadways (in this case, I-90), when controlled by congestion pricing, make a high-speed operation possible.

Park-and-ride facilities are important components of the Express Bus Service. Pace is in the process of evaluating the need for new park-and-ride facility locations and the quality of amenities at these facilities. Express Bus Service is likely to be supported by real-time information systems.

The infrastructure needs of Pace's Express Bus System will consist of – at the minimum:

- Express stops for point-to-point Express Service
- Park-and-ride facilities
- Real time information systems at all Express bus stations and stops, as well as at Park-and-ride facilities



I-90 CORRIDOR EXPRESS BUS SERVICE (ROSEMONT CTA ←→ RANDALL ROAD)
Daily express bus service traveling on Interstate 90 (Northwest Tollway) between the Rosemont CTA station and various termini along the route. Please see route descriptions for more detail of service on individual routes. The I-90 Express Bus services will provide regional connectivity, reduce congestion, and improve air quality, reducing overall travel time and providing high quality rapid transit service in the corridor. Combined with value pricing measures, this transit service will help preserve mobility and accessibility for all travelers along the corridor.

Connections:
Note: Local circulators would be instituted to serve all of these suburban stops, along with existing fixed route service.

- Rosemont: O'Hare Airport, downtown Chicago (via CTA Blue Line)
- Des Plaines Oasis: Elk Grove Village industrial areas (currently served by Routes 223 and 757). Limited park-n-ride at this stop.
- Arlington Heights Park-n_Ride: Arlington Heights Rd/Algonquin Rd office agglomeration (currently served by Routes 606, 616 and 757). Full park-n-ride facility at this stop.
- Meacham Road: Woodfield Mall (Routes 208, 554, 606, 696, 699, 757, 905), Northwest Transportation Center (Woodfield routes and Route 600), Golf Road office corridor (Routes 208 and 606). Limited park-n-ride at this stop.
- Prairie Stone: Prairie Stone complex (Routes 610, 767), Barrington Road office corridor (Route 557); limited park-n-ride at this stop.

- Randall Road: Randall Road business corridor (Route 550), Elgin Transportation Center (Routes 541, 542, 543, 544, 546, 547, 548, 549, 552, 554, 556, 801). Full park-n-ride facility at this stop

Fares: The fare would vary by distance, but would average $3.

Infrastructure: These recommended improvements would decrease travel times and help alleviate traffic congestion Recommended improvements include:

- Signal priority: along River and Higgins roads between the Rosemont station exit and the I-90 entrance ramp; on Randall Road at the I-90 access ramps and Point Blvd.
- Full bus access: Beverly Rd, Barrington Rd (If buses were to use dedicated pulloffs, these interchanges would not need to be completed)
- Pulloff stations: Immediately to the west of Meacham Rd; between Beverly Rd and IL 59.
- Toll plazas: use of emergency lane (lane at right end of plaza at certain times); automatic access gate from River Road toll plaza to Rosemont station driveway

Point-to-Point Route Descriptions: A thru D
There would be a bus running from one of these routes approximately every 6 minutes between 5-9 am and 3-7 pm, and 12 minutes during off-peak periods on I-90 (30 minutes late night).

Table 10 I-90 Corridor Express Bus Route Summaries

Route Letter	Point to Point	Span of Service	Headway	Terminus or Park and Ride
Route A	Rosemont-Randall Rd	5am to 9pm	30 min peak; 90 off-peak	Randall Rd & Point Blvd.
Route B	Rosemont-Prairie Stone	5am to 9pm	30 minutes peak only	Prairie Stone Transportation Ctr
Route C	Rosemont-Convention Center	5am to 12am	15 min peak; 30 off-peak	Pull-off station, just west of Meacham Rd
Route D	Rosemont-Arlington Heights	5am to 12am	15 min peak; 30 off-peak	Elk Grove Village Park-n-Ride, Stop at Des Plaines Oasis)

c. Arterial Rapid Transit and Express Bus Local Circulator (Feeder) Routes

The Pace *Vision 2020 Plan* calls for a suburban mobility network of line haul services utilizing arterials; an Express Bus Network operating on regional limited access roadways; community based services utilizing flexible routes, vans and demand responsive service; and improved passenger amenities.

The success of the regional arterial system depends on how well it brings passengers to the network: the “first and last mile” of a passenger’s trip. The plan envisions a development of local circulator services connecting to main line Arterial Rapid Transit and Express Bus Networks serving commercial, retail and residential areas. The circulator system can vary depending upon market conditions, land use and operating characteristics.

The services will connect to the ART and Express Bus Network at regional transit centers and on-line station stops. Potential routes will operate based on market demand and land use densities. Routing characteristics include dedicated routing, flexible services that can deviate within a defined corridor or area and services operating on request within a defined service area. These routes and service will provide the necessary connectivity between the places where people live, work, shop, and play and the ART lines, and represent a part of a transit improvement strategy, which when combined with the value pricing measures proposed, will increase travel options and mobility in the region. Detailed market analysis and service planning will continue. Current service will be utilized where appropriate.

d. Park-and-Ride Lots

The Urban Partnership proposes to construct park-and-ride facilities. Park-and-ride lots will be provided at appropriate service points along the arterial and express corridors, and at appropriate points of transit service to or within the corridors. These facilities will concentrate transit riders, particularly those from low density developments that do not receive frequent transit service. These convenient collection and transfer points will provide a means for automobile users, pedestrians, and bicyclists to gain access to express bus service. These lots also can be used as "park-n-pool" locations to consolidate riders participating in vanpools and carpools.

To provide a high level of access to transit, park-and-ride lots will serve the major corridors Chicago’s Urban Partnership proposal contemplates. They will at the same time be located along major arterials and at nodes of activity. Site selection will in addition be based on travel time from point of origin to destination, competing service and facilities, feeder route lengths, site access points, service accommodation needs as well as site characteristics and amenities.

As a convenience to transit users, businesses that provide personal services can be located adjacent to park-and-ride facilities. Services such as daycare and dry-cleaning can be offered for transit users in an effort to reduce the need for automobile trips and the resulting congestion.

Park-and-ride facilities also can be incorporated into transportation centers and transfer facilities where a number of transit routes and modes intersect. Additionally, transit user parking can be combined with parking facilities used for recreational or commercial purposes. Since periods of use oftentimes vary, both demands may be efficiently accommodated.

The design of park-and-ride lots will differ according to facility size and locational features. The Pace Passenger Facility and Park-n-Ride Guidelines outline design criteria such as walkways, pavement design, parking space dimensions and types, signage, lighting, landscaping and passenger amenities for Regional, Subregional, Local and Vanpool park-n-ride lots.

These lots will provide an important element in the overall strategy Chicago's Urban Partnership proposal advances, a strategy in which congestion pricing connects and works together with transit improvements.

e. Chicago Transit Authority Bus Replacement Program

The Chicago Transit Authority operates approximately 2,212 buses, making over 24,213 weekday trips on the 150 bus routes, providing almost one million rides on a typical weekday. Buses are operational 24 hours a day, 7 days a week, and travel approximately 205,000 miles each day. Each customer boards a fully accessible, air conditioned bus at one of the 11,924 bus stops located throughout the CTA's service area. The backbone of the system is the bus fleet. The system's success depends on CTA's ability to renew, maintain, and operate the bus fleet.

Almost half of CTA's bus fleet (1,045 buses or 47.24%) is currently over-age and due for replacement. Some of these over-age buses may currently be found on the #88 Higgins, #56 Milwaukee, #62 Archer, and #60 Blue Island routes, which are parallel to the identified I-90 and I-55 (Southwest) corridors. They are certainly utilized on the many routes serving the Chicago Central Area and the CBD. Providing new buses induces people to switch from automobiles to transit in the target areas. CTA has identified funding to replace most of the oldest buses (16-17 years), but the funding has not been identified for forty-one of these very old buses. We are seeking this funding through the FTA Bus Program under the Urban Partnership Agreement.

6. Financial Plan

To finance the Urban Partnership, and to make congestion pricing possible, The Illinois Department of Transportation seeks Section 5309 financial assistance for the bus transportation improvement program outlined above.

This early in the planning phase, detailed plans have not yet been worked out, so many elements of this proposal do not yet have line item budgets sufficient for detailed work later. So the costs presented are sometimes estimates based on corridor-level planning work completed over the past several years. Details will be worked on together with our partners should the Chicago Metropolitan Urban Partnership receive federal funding.

To match federal capital funds, a variety of local funds will be tapped. Transit agencies are seeking a state financial package to match federal funds and to assure continued facility maintenance and capital improvements. As a last resort, tollway revenue credits may be used.

Section 5309 does not fund operating costs. The Partnership will be seeking operating cost subsidies for the startup services through other federal (e.g., VPP) and state programs. Operating cost subsidies will be sought through new congestion-pricing revenues, though institutional mechanisms do not now exist to effect such a subsidy, even if value pricing is instituted. Addressing this institutional barrier is a key to a successful program.

A summary of Partnership costs associated with the 5309 grant program elements, including the requested federal share, follows below.

a. Bus Arterial Rapid Transit Corridors

Task	Northwest Corridor		Southwest Corridor		Total Cost (Federal Share Requested)
	Quantity@ Cost	Total Cost	Quantity	Total Cost	
Physical Facilities (stations, bus-related road improvements, station amenities, etc)	69.78 @ $2.5 M per mile	$174,450,000	19.5 @ $2.5 M per mile	48,750,000	$319,890,000 (255,912,000)
			64.46@ $1.5 M per mile	96,690,000	
Buses, Arterial Rapid Transit Vehicles	21 @ $350 K each	7,350,000	25@ $350 K each	$8,750,000	16,100,000 (12,880,000)
Subtotal (Federal Request in Parentheses)					$335,990,000 **(268,792,000)**

b. I-90 Express Bus Service					
Task	Northwest Corridor		Southwest Corridor		Total Cost (Federal Share Requested)
	Quantity@ Cost	Total Cost	Quantity@ Cost	Total Cost	
Physical Facilities (stations, bus-related road and interchange improvements, station amenities, etc)	5 @ $20.0 M each	$100,000,000			$100,000,000 (80,000,000)
Buses, Arterial Rapid Transit Vehicles	27@ $400 K each	10,800,000			10,800,000 (8,640,000)
Subtotal (Federal Request in Parentheses)					$110,800,000 **(88,640,000)**
c. Arterial Rapid Transit and Express Bus Local Circulator (Feeder) Routes					
Corridor	Northwest Corridor		Southwest Corridor		Total Cost (Federal Share Requested)
	Quantity@ Cost	Total Cost	Quantity@ Cost	Total Cost	
Small Buses	15@ $250,000	$3,750,000	10@ $250,000	$2,500,000	$6,250,000 (5,000,000)
High-performance Vans	10@ $65,000	650,000	8@ $65,000	520,000	1,170,000 (936,000)
Subtotal (Federal Request in Parentheses)					$7,420,000 **(5,936,000)**
d. Park-and-Ride Lots					
Corridor	Northwest Corridor		Southwest Corridor		Total Cost (Federal Share Requested)
	Quantity	Total Cost	Quantity	Total Cost	
Park and Ride Facilities	Lump Sum	$6,000,000	Lump Sum	$4,000,000	$10,000,000 (8,000,000)
Subtotal (Federal Request in Parentheses)					$10,000,000 **(8,000,000)**
e. Chicago Transit Authority Bus Replacement Program					
Corridor	Multi-Corridor				Total Cost (Federal Share Requested)
	Quantity @cost		Total Cost		
Urban Buses	41 @ $420,460		$17,238,860		$17,238,860 (13,791,088)
Subtotal (Federal Request in Parentheses)					$17,238,860 **(13,791,088)**
Grand Total Bus Capital Cost					**$481,448,860**
Federal 5309 Share Requested					**$385,159,088**

CHICAGO METROPOLITAN URBAN PARTNERSHIP

SUBMITTAL FOR
VALUE PRICING PILOT PROGRAM

SUBMITTED BY THE
ILLINOIS DEPARTMENT OF TRANSPORTATION
300 W ADAMS ST 2ND FLOOR
CHICAGO IL 60606

APRIL 30 2007

NOTE: THIS SUBMITTAL SUPPORTS ASSOCIATED URBAN PARTNERSHIP SUBMITTAL AND RELATED GRANT SUBMITTALS

Part I: Background Information

1. Point of Contact

This request for funding is being submitted by the Illinois Department of Transportation. The point of contact for the submittal is:

Mr David Spacek
Bureau Chief
Division of Public and Intermodal Transportation
Illinois Department of Transportation
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Chicago, Illinois 60606
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2. Description of Agencies to Be Funded

The Illinois Department of Transportation is the lead agency of the Chicago Metropolitan Urban Partnership. A description of the Illinois Department of Transportation and highlights of other agencies seeking funding as part of the agreement are provided below.

Illinois Department of Transportation

Illinois Department of Transportation IDOT provides safe, cost-effective transportation for Illinois in ways that enhance quality of life, promote economic prosperity and demonstrate respect for our environment. Five guiding principles represent the hallmark of IDOT's work: safety, integrity, responsiveness, quality and innovation. The department's vision is to be recognized as the premier state department of transportation in the nation.

The department is responsible for nearly 17,000 highway miles, including more than 2,000 miles of Interstate highways and nearly 8,000 bridges. IDOT employs approximately 6,000 fulltime employees. The IDOT highway construction program totals nearly $2 billion annually.

IDOT's support services goals in areas such as aeronautics, rail and public transportation target the efficient delivery of state and federal

transportation grants and other funds to eligible local and regional agencies across Illinois. Outcome indicators for these areas show generally strong levels of service regarding the availability, reliability and public use of airports, passenger rail and public transit services. The department also promotes highway safety through programs providing extra enforcement and educational activities.

Illinois State Toll Highway Authority (Illinois Tollway)

The Illinois Tollway consists of 274 miles of limited access highways serving suburban Chicago and Chicago O'Hare International Airport. The entire Illinois Tollway system has been designated as part of the U.S. Interstate Highway System. Annual toll transactions totaled 684 million passenger vehicles and 84 million commercial vehicles in 2005. About 80% of transactions are now by I-Pass or E-ZPass transponder.

The Illinois State Toll Highway Authority is dedicated to providing and promoting a safe and efficient system of toll-supported highways while ensuring the highest possible level of customer service. Recent reform under the current Governor of Illinois led to a $5.3 billion congestion relief effort by the Illinois Tollway, including implementing a progressive program of open-road tolling at highway speeds at all 20 mainline toll plazas, capacity expansion, rebuilding nearly the entire system, and value pricing.

The Tollway is governed by an 11 member Board of Directors that includes the Governor of Illinois and the Secretary of the Illinois Department of Transportation, ex-officio, and nine directors appointed by the Governor with the advice and consent of the Illinois Senate. The Board of Directors has the power to manage and operate the Tollway system, including the power to raise and lower toll rates.

City of Chicago

The planning, design, development, construction, operation, and management of transportation projects, functions, and services in the City of Chicago is a cooperative responsibility of several City Departments, all overseen by the Office of the Mayor. The City of Chicago is responsible for over 3,775 miles of streets, 100 miles of on-street bikeways, 3,000 signalized intersections including 30 existing interconnect systems with over 500 signals, downtown transit stations, and 395 bridges and viaducts, including 37 movable bridges.

The Chicago Office of Emergency Management and Communications (OEMC) is responsible for traffic management and operations, signal

system operations, communications, and emergency management, and ITS planning and operations.

The Chicago Department of Transportation (CDOT) is responsible for the planning, design, engineering, and construction of the transportation infrastructure in the City of Chicago.

The Chicago Department of Streets and Sanitation's (DSS) Bureau of Electricity is responsible for the installation and maintenance much of the City's signal system infrastructure.

The Chicago Department of Revenue (DOR) is responsible for the development, implementation, and collection of taxes, fees, charges, and other revenues.

The City has also established a Traffic Management Authority (TMA) within the Office of Emergency Management and Communications. The TMA manages traffic flow and is responsible for the development and operation of the Chicago Traffic Management Center. The TMC is co-located with the Chicago 911 Center, the Operations Center, the City Incident Center, and the Joint Operations Center to facilitate the coordination of emergency management and transportation management functions. Deploying technology to improve flow, the TMA manages traffic signal timing, manages a "red-light camera" highway traffic signal enforcement program, and deploys traffic aides to assist in traffic control (intersection clearance, lane clearance, etc.).

The City of Chicago acting as the owner and tolling authority of the Chicago Skyway Toll Bridge system entered into a 99 year operating lease with Skyway Concession Company LLC on January 24, 2005. Under the agreement, Skyway Concession Company LLC retains all toll road revenue and is responsible for the operation, maintenance, and capital improvement of the 7.8 mile toll road. Rates, schedules, and restrictions are outlined in the concession agreement. Congestion pricing on the Skyway as proposed in this application will require concessionaire and Chicago City Council approval.

Chicago Transit Authority

The Chicago Transit Authority (CTA) operates the nation's second largest public transportation system. It provides 1.5 million rides on an average weekday; 458 million trips are projected in 2006. CTA is responsible for bus and rail systems in the City of Chicago and 40 adjoining suburban communities, with 3.8 million people in an area of about 220 square miles.

Chicago is one of the few cities in the world that provides rapid transit service to two major airports. From the downtown area the CTA takes customers to the O'Hare International Airport in about 40 minutes and to Midway Airport in about 30 minutes.

CTA has approximately 2,000 buses that operate on about 150 routes. These buses make over 24,000 trips each day. The bus fleet operates from eight bus garages located throughout the City. An additional facility, South Shops, performs all heavy bus maintenance.

CTA provides rail service on eight routes radiating from the Loop of downtown Chicago. CTA has approximately 1,200 rapid transit cars operating on 289 miles of track, serving 144 stations.

Pace Suburban Bus Service

Pace Suburban Bus Service provides bus service Chicago's suburbs. In addition, Pace provides region-wide paratransit and ridesharing services. To improve efficiency and reduce wait times, Pace's state-of-the-art Intelligent Bus System is a major component of its Vision 2020 long-range plan. Improved efficiency and reduced waiting times are key benefits of the IBS. Pace's fleet is wheelchair and bicycle accessible.

Pace employs about 1,500 staff in 11 operating divisions. 240 Pace fixed bus routes provide service to 210 municipalities and 147 rail stations. There are 600 vanpools. 2004 Pace ridership totaled 34.4 million, including 1.5 million vanpool rides.

Regional Transportation Authority (RTA)

The RTA was established in 1974 to oversee local transportation operators in the six-county Chicago metropolitan area. Illinois state law requires the three RTA service boards, CTA, Metra (the suburban rail system) and Pace (the suburban bus system), to recover collectively at least 50% of operating costs from farebox and other system revenues. RTA provides public funding for the agencies' remaining operating expenses.

3. Statement of Funding and Tolling Intent

The Illinois Department of Transportation and partner agencies will seek funding.

The Illinois Department of Transportation and partner agencies will seek Tolling authority of federally supported facilities.

The Illinois Department of Transportation is seeking implementation funds.

4. Agency To Be Responsible for Operating, Maintaining, and Enforcing the Tolling Program

The Partnership intends that the Illinois State Toll Highway Authority (Illinois Tollway) and the City of Chicago will be responsible for various aspects of the tolling program, in cooperation and by agreement with jurisdiction agencies.

The Illinois Tollway has jurisdiction over the Northwest Tollway, I-90, a road funded by user fees. The Tollway will be responsible for the Northwest Tollway congestion pricing program. The Tollway is governed by an 11 member Board of Directors that includes the Governor of Illinois and the Secretary of the Illinois Department of Transportation, ex-officio, and nine directors appointed by the Governor with the advice and consent of the Illinois Senate. The Board of Directors has the power to manage and operate the Tollway system, including the power to raise and lower toll rates. The Tollway approved several value pricing initiatives in 2003 as part of its congestion relief initiatives.

The Chicago Department of Revenue (DOR) and the Chicago Skyway will implement the pricing components of the **Smart Moves Chicago** program. DOR has authority to impose and collect parking fees and loading zone fees for on-street parking and loading respectively. The Chicago Department of Revenue also has the authority to impose and collect a City parking tax. The City currently imposes a fixed rate parking tax for off-street parking facilities in the CBD and elsewhere in the City. The City of Chicago acting as the owner and tolling authority of the Chicago Skyway Toll Bridge System entered into a 99 year operating lease with the Skyway Concession Company LLC on January 24, 2005. Under the agreement, Skyway Concession Company LLC retains all toll road revenue and is responsible for operations Rates, schedules and restrictions are outlined in the concession agreement. The proposed value pricing components may require changes to the enabling City Ordinances to allow implementation of the variable pricing and/or taxing strategies envisioned in the program or to the

Skyway lease agreement to implement the congestion pricing strategy proposed for the Chicago Skyway.

5. Statement of Intent regarding Urban Partnership

The State of Illinois is submitting documents and materials in support of the designation of metropolitan Chicago as an Urban Partner. The Urban Partner submittal and related grant submittals are attached to this document. The region seeks to enter an agreement with USDOT that will enable and commit the Chicago region to take broad and aggressive action to reduce congestion.

The City of Chicago, Illinois Tollway, and Illinois Department of Transportation are all committed to working closely with each of the Urban Partners. These agencies are charter members of the coalition applying for the Urban Partnership Agreement. The Agreement is being coordinated through the Chicago Metropolitan Agency for Planning, the regional planning agency.

Part II: Core of Application

1. Current and Projected Congestion in Metropolitan Chicago

Traffic congestion in the Chicago metropolitan area is severe in intensity, wide-spread in extent, long in duration, and persistent in frequency. Metropolitan partners have extensive data collection and analysis programs in place to measure and manage system performance. This data helps demonstrate the severity of Chicago's problem. Data highlights are presented below.

An Introduction: National Data Comparisons

When compared with other metropolitan areas, the Chicago area's congestion is among the worst in the nation. The Texas Transportation Institute's (TxTI's) frequently quoted *Urban Mobility Report* allows comparisons of congestion between regions. This report's Travel Time Index is the ratio of travel time in the peak period to travel time under free-flow conditions (60 mph on freeways and 35 mph on principal arterials). The 2003 Travel Time Index for Chicago was 1.57, ranking number two among U.S. cities, and second only to Los Angeles-Long

Beach (TxTI, *Urban Mobility Report, 2005)*. The Texas Transportation Institute also calculates the annual delay per peak-period traveler. TxTI estimates metropolitan Chicago's annual delay per peak-hour traveler at 58 hours per year, ranking 7th nationally. These data demonstrate the intensity of the Chicago area's traffic congestion problem.

The newer, more focused "Urban Congestion Report" also shows significant congestion in Chicago compared to 19 other congested cities. Table 1 shows results for the reporting period November 2006 - January 2007.

Table 1
Urban Congestion Report Comparison, November 2006–January 2007

Measure	Chicago	Chicago Rank	National Composite	Explanation of Measurement
Congested Hours	11.6	Worst	5.980	Hours per day when 20% of system is congested
Travel Time Index	1.44	Third Worst	1.367	Ratio of peak-period travel time to free-flow travel time
Planning Time Index	2.01	Fourth Worst	1.834	Factor showing extra time to set aside for on-time arrivals because of travel time variation

Source: USDOT *Urban Congestion Report*, November—January 2007, National Executive Summary, Final.

Intensity of Congestion:

The region's transportation agencies collect and maintain data revealing substantial congestion in the regional transportation system. Regional travel model results show that congestion is severe. Table 2 shows a regional summary, and indicates that the problem is particularly acute in low-income and minority communities.

Table 2
2005 Travel Speeds By Income Level

Ratio of Zone Income to Regional Mean Income	Freeway / Tollway Speeds (mph)	Arterial Speeds (mph)
<.25	33	21
.25 to .75	38	20
.75 to 1.25	45	27
1.25 to 1.75	46	28
> 1.75	45	27
All	43	26

Source: CATS 2005 RTP/TIP Conformity Analysis, Appendix A, Table 74.

Table 2 shows low daily average travel speeds. Travel speeds are lowest in low-income communities. Minority communities are similarly affected. The data presents network performance within low-income geographies.

Spatial Extent of Congestion:

Congestion is significant throughout Cook County, where nearly two-thirds of the regional population lives, and particularly acute in Chicago, home to nearly one-third of the region's residents. Nevertheless, congestion exists in many parts of the region, and many residents are impacted by traveling through congested areas.

Duration of Congestion:

The duration of congestion is dependent upon the type and location of the facility. Data suggest that the arterial system operates at congested speeds for a greater part of the day than freeways, but there is less variation in travel times overall. Freeways have substantial variation by location and direction.

For more data about Chicago area congestion, see the accompanying Urban Partnership Agreement or the CMAP 2006 Congestion Management System Status Report (http://www.catsmpo.com/prog/cms/congestion-mitigation-status-rpt_06.pdf).

Projections for the Future

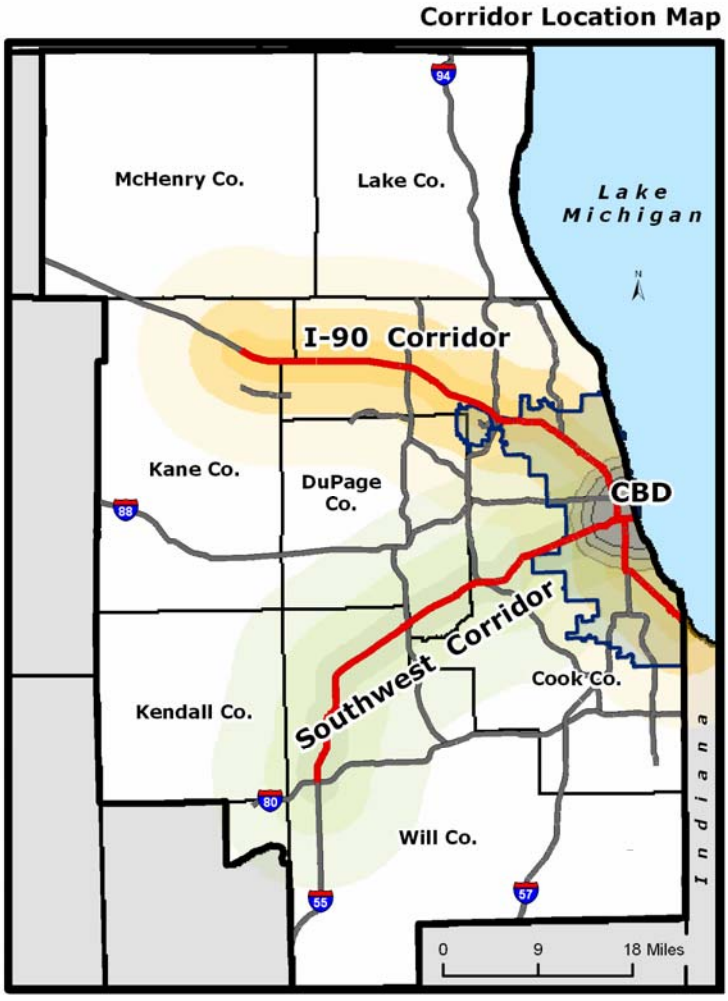
The conformity analysis of the region's recently updated *2030 Regional Transportation Plan* shows that traffic volumes are projected to grow. Daily VMT in the region will grow 25% from less than 60 million VMT in 2002 to more than 75 million per day in 2030, under the current plan. While transportation improvements are planned to help, they cannot

keep up. Freeway and tollway VMT traveling at 25 mph or less is expected to increase 22% from 2007 to 2030.

2. Description of the Pricing Program

The Chicago Urban Partners are committed to developing and implementing an aggressive, coordinated, innovative, and effective program of value pricing to eliminate the severe congestion experienced by travelers in our region. This program involves multiple agencies and jurisdictions and is designed to be implemented as a pilot in up to three of the most severely congested corridors in the region: the I-90 (Northwest) Corridor which runs from the Chicago CBD (or the "Loop") out to O'Hare International Airport, and continues as the Northwest Tollway to Elgin and Kane County; the Southwest Corridor (I-55) which runs from the Loop out to Midway Airport and continues to Joliet and Will County, and the Chicago Central Area which includes the economic epicenter of the region and contains the CBD (Loop) and the areas immediately around the CBD. See the Corridor Location Map.

Figure 1



The proposed pricing program will be implemented as a pilot in these corridors to demonstrate the effectiveness of pricing as a congestion relief strategy to what admittedly will be a skeptical audience of stakeholders. An important and critical aspect of the proposed pricing program is the need to precede its implementation with a strong program to develop and put travel alternatives in place. Where pricing has succeeded, the key "lesson learned" is that transit, telecommuting, and technology must be aggressively deployed in advance of pricing to ensure that travelers have convenient, reliable, attractive, and competitive options to serve their travel needs. The Chicago Urban Partners are committed to this approach and have developed a comprehensive program of transit improvements, traveler information, telecommuting and demand management strategies, and technology including extensive use of Intelligent Transportation Systems (ITS) to supplement, enhance, and expand the services already available in these corridors which will compliment the pricing strategies.

Finally, there is also recognition of the importance of outreach to travelers and the public to educate and inform them of the issues, the needs, the reasons, the solutions, the benefits, the impacts, and the options of the complete program of regional projects, strategies, and services to fight the congestion that they see around them every day. The Chicago Urban Partners are also committed to listen to their concerns and ideas to help mold a program that will be accepted and effective. The complimentary aspects of the Chicago Congestion Initiative are described in the complete Urban Partnership Agreement application and the funding applications for the ITS-OTMC, Flexible Bus, and TCSP programs that, taken together with this application for VPP funding, make up the comprehensive regional program.

The proposed pricing program includes:

- Implementation of congestion pricing by the Illinois Tollway on the Northwest Tollway to address congestion in the I-90 (Northwest) Corridor. Congestion pricing on the Northwest Tollway will help reduce congestion on the Tollway and the Kennedy Expressway.
- Implementation of value pricing in the Chicago Central Area. Value pricing in he Central Area will take the form of variable pricing for off-street parking and variable fees for use of the on-street truck loading zones in the CBD (Loop). Pricing these resources will reduce congestion in the Central Area and on the expressway corridors serving the Central Area.
- Implementation of congestion pricing on the Chicago Skyway which serves the southeast portion of the I-90 Corridor and is a

major link between northwestern Indiana and northeastern Illinois.

- Feasibility studies of a range pricing strategies in other corridors and parts of the region that could include cordon or zonal pricing strategies and that will apply the lessons learned from the pilot pricing strategies being implemented in the I-90 (Northwest) and Central Area Corridors.

The Chicago metropolitan area is uniquely positioned to succeed in this effort because it faces some of the most severe congestion and travelers are anxious for new and effective strategies to mitigate this growing crisis. The region also already has in place much of the tolling, technology, and transit institutions and infrastructure needed to develop and deliver effective solutions in a timely manner. We need strategic deployment and integration.

The Illinois Tollway and the City of Chicago are able to proceed with implementation key parts of the pricing program. The Chicago Urban Partners are committed to assist in this effort and to participate in the feasibility studies that will allow them to build on experience. The following sections describe the pricing program.

A. Smart Moves Chicago

The City of Chicago is developing a program of congestion relief called **Smart Moves Chicago. Smart Moves Chicago** is being developed in conjunction with the Urban Partnership, and will be a mechanism for the City to focus its congestion relief efforts and a banner under which to reach out to the public and stakeholders.

Mobility is essential to both the quality of life and the economic vitality of the City of Chicago and our metropolitan region. Increased congestion in our metropolitan areas causes increased pollution, delay, and frustration. The Congestion Initiative announced by USDOT in May 2006 represent a challenge and an opportunity to the City and the region to develop and pursue an aggressive approach to insure that our citizens and businesses will prosper from a transportation system that has overcome the stagnating impact of increasing congestion, and to enhance our environment.

Smart Moves Chicago uses all four T's as the tools to combat congestion: Tolling, Telecommuting, Transit, and Technology. Few regions in the nation have the levels of traffic congestion typical of Northeastern Illinois. Fewer regions have the tolling, transit, and

technology infrastructure to implement the comprehensive solutions demanded. It is unlikely that many regions have the experience and the will to tackle the congestion crisis with the aggressive program required to produce rapid results for the greatest number of people.

The City's and region's Congestion Initiative is targeted at corridors, areas, and services of greatest need. Further it includes projects and strategies to improve the performance in focused locations and functional areas, and to influence the travel behaviors that contribute to congestion. **Smart Moves Chicago** recognizes the need to develop and put a program of mutually supportive projects and strategies in place. Encouraging behavioral changes of mode, or time, or place can work only if the alternative services are available to meet the mobility needs of travelers and businesses. Table 3 summarizes the projects and strategies included in the City's **Smart Moves Chicago** Congestion Initiative.

Smart Moves Chicago
Chicago Congestion Initiative
Table 3: New Initiatives

Project/Strategy	Partners	Summary Description
TOLLING		
Variable Parking Pricing	Parking owners/operators	Implement Value Pricing Program for off-street parking in Central Area based on expressway/arterial congestion, peak period, and/or parking occupancy using City Parking Tax
Commercial Vehicle Loading Fee Structures (pay by hours of use)	Building owners/managers	Implement variable fees for loading operations in Central Area based on congestion, peak period, location, duration
Chicago Skyway Congestion Pricing	Skyway Concessions, LLC	Implement Congestion pricing on 7.8 mile Chicago Skyway linking Indiana and Illinois as portion of I-90 Corridor
Chicago Congestion Pricing Study	MPC, Tollway, IDOT	Copnduct analysis of feasibility, impacts, and implementation potential of cordon zone and other value pricing strategies. Include outreach to stakeholders fro input, education.
TELECOMMUTING		
Flextime Business Partnerships	CCC, GNMAA, LEED Council	Implement program to encourage flexible hours though subsidies and outreach to business partners and their employees
Telecommuting for Disabled and Others to Support Home-based Work	CCC/MOPD	Implement program to support telecommute options for disabled workers and others by subsidizing adaptive equipment and Internet services

	TRANSIT		
	Expanded Bus Tracker		Extend Bus Tracker real-time bus information system to additional routes and system-wide based on the Madison #20 pilot
	Train Tracker		Implement real-time train tracking information system to compliment Bus Tracker and provide next train arrival information
	Automated Customer Travel Information - Software/Hardware		Implement system to provide real-time next bus information to customers using Internet, mobile devices. Extend real-time next bus information to on-street delivery at Decaux shelters, etc.
	Pedestrian and Bicycle Enhancements		Accelerate implementation of a range of pedestrian and bicycle enhancements to encourage use of alternative modes and improve safety including traffic calming, streetscape, pedestrian countdown signals, bicycle facilities
	Enhanced Transit Services		Accelerate implementation of enhanced transit services in congested corridors as driving alternative to compliment value pricing program
	TECHNOLOGY		
	Signal Timing Optimization Program, Signal Interconnect and Smart Corridors Deployment		Implement program to optimize signal timing to improve traffic flow on major arterials and to deploy/expand centralized and interconnected signal operations and Smart Corridors
	Expanded Transit Signal Priority (TSP) Program		Implement Transit Signal Priority to improve bus operations and customer service in congested corridors based on Western Ave. X49 TSP pilot
	Expanded Traveler Information System		Expand coverage and availability of multi-modal travel information to include real-time performance measures for Strategic Regional Arterials
	Targeted Incident Management Program		Expand traffic incident management to major arterial corridors including parking management, enforcement, traffic control aides, and towing services
	Traffic Management Center		Accelerate deployment of Chicago TMC to coordinate emergency, incident and traffic management functions including centralized signal operations from TMC

Intelligent Transportation System (ITS) technology is a core component to implement the pricing, transit, and operations

improvements included in the regional congestion Initiative. The sections below describe the projects for which funding is sought from the Value Pricing Program, the ITS-Operational Tests to Mitigate Congestion program, the FTA Section 5309 Bus and Bus Related Facilities Discretionary (Flexible Bus) program, and the Transportation, Community, and System Preservation program to implement the **Smart Moves Chicago** Congestion Initiative.

The Value Pricing components are focused on addressing the significant congestion issues in the Chicago Central Business District. Four key strategies are proposed to address vehicular and freight related congestion. Three of these strategies would be implemented in the near term pending the approval of the required changes in the authorizing City Ordinances and the Chicago Skyway concession agreement terms. The final strategy lays the groundwork for a model program of cordon pricing that would be based on the methods and lessons learned form the successful programs implemented in London, Stockholm, Singapore, and elsewhere. Taken together these strategies represent an aggressive commitment by the City of Chicago to eliminate congestion in the economic focus of the region and to support the comprehensive regional Urban Partnership program being led by our regional planning agency, the Chicago Metropolitan Agency for Planning (CMAP).

The proposed ITS technologies include projects to implement pricing strategies, traffic and transit management and operations improvements, and traveler information improvements. Each builds on existing ITS infrastructure and has been designed to be consistent with the regions ITS Strategic Deployment Plan and the Northeastern Illinois ITS Regional Architecture. The City of Chicago projects are carefully designed to support ITS projects are proposed by each partner agency including: the Illinois Department of Transportation, the Illinois Tollway, the Regional Transportation Authority (RTA), the Chicago Transit Authority (CTA), and Pace (the suburban bus operator).

Flexible work hours and expanded telecommuting opportunities will also be developed in partnership with the business community and major employers to help shift travel from the peak congested period or to substitute information technology for trips.

The transit components include expanded and upgraded rail and bus services in key corridors and the Central Area; enhanced real-time traveler information though the Internet, on mobile devices, and at stations and bus stops; pedestrian and bicycle facilities and amenities

that enhance safety and encourage use of these alternatives; and expanded car-sharing opportunities that will provide viable options to encourage travelers to use transit rather than drive.

b. The following sections describe the pricing projects and strategies in the **Smart Moves Chicago** program proposed for VPP funding.

The pricing component of the **Smart Moves Chicago** program consists of five core elements:

- Variable pricing of off-street parking in the Central Area
- Variable commercial vehicle loading fees for on-street loading zones in the Central Area,
- Congestion pricing on the Chicago Skyway,
- A targeted car-sharing program for the Central Area, and
- Analysis and preparations for a potential cordon pricing strategy in the CBD.

The following sections describe these components in greater detail.

a) Variable pricing of off-street parking in the Central Area

Variable pricing of off-street parking in the Central Area will be implemented through the City parking tax rates. Tax rates for parking would be established based on the occupancy and available spaces in the off-street parking facilities located within the Central Area and the congestion levels of the expressways serving the Central Area. A limited number of time periods and rates would be implemented initially. The time periods and raters would increase the parking cost incrementally during the periods of heaviest congestion on the expressways and the capacity conditions of the garages. Rates would be established to shift driving trips from the peak periods and to transit. Drivers would be informed of the rates through a combination of static signing, media, and Internet. Information on the availability of parking spaces at specific locations and the rates charges fro certain time periods would be made available in real-time via the Internet, and to drivers en-route via strategically placed Variable Message Signs (VMS) in and approaching the Central Area and via mobile devices.

All expressways serving the region and the Central Area are instrumented and real-time information on expressway congestion conditions is currently available through Gary-Chicago-Milwaukee (GCM) Gateway Traveler Information System operated by the Illinois DOT (see www.gcmtravel.com for examples of this data). Archived

data for the expressways is also available from GCM Gateway (see www.gcmtravelstats.com for examples).

b) Truck Loading Fees for on-street loading zones in the Central Area

Truck Loading Fees for on-street loading zones in the Central Area would be implemented through enhanced applications of the pay and display technology already used by the City of Chicago for on-street parking of private vehicles.

The program will introduce paid truck loading zones in the most congested locations in Chicago's Central Area, with possible extensions to the Stevenson corridor and the I-90 corridor. Truck loading zones compete for other uses of busy streets, including both paid auto parking and parking for the disabled. Under the current system, the property owner requests a loading zone and pays an annual fee for the use of the public way.

The annual fee would be replaced or augmented by a pay-for-use system. The ability to ration truck parking will result in less double parking and other conflicts with moving traffic, thereby reducing conflicts and congestion, and improving traffic flow.

The proposed fee for the Central Area initial program would be based on congestion in and around the Central Area. To facilitate and simplify deployment the initial implementation would set fees based on time of day to reflect existing congestion conditions. Increasing rates per hour would also be applied for longer stays. This is expected to encourage a fast turnover and the ability of more deliveries to be made in the same amount of space.

Anticipated annual revenues are expected in the range of $2 to $2.5 million. The program will employ a variation of the City of Chicago's pay-and-display parking system. This allows payment by cash, debit card, or credit card. Enforcement will be paid for in part through the revenue collected. The estimated capital cost will be $5,500,000 and the annual cost of collection and servicing is estimated to be $500,000.

c) Congestion pricing on the Chicago Skyway

Electronic toll collection technology is deployed on the Chicago Skyway. Skyway users can pay tolls using the same I-Pass transponders used by the Illinois Tollway on all other tolled facilities in the Chicago

metropolitan region. In addition, as members of the Inter Agency Group (IAG), both the Skyway and the Illinois Tollway accept the EZ-Pass transponders prevalent on the majority of toll facilities, particularly on the east cost.

With over 2 million I-Pass equipped vehicles in the Chicago metropolitan region implementation of congestion pricing on the Chicago Skyway is technologically feasible in a short period. In fact, a limited version of congestion pricing is already in place ion the Chicago Skyway in the form of differential tolls for trucks during peak traffic periods.

In 2005 the City of Chicago acting as owner and tolling authority of the Chicago Skyway Toll Bridge System entered into a 99 year lease with the Skyway Concessions Company LLC. The lease agreement specifies the responsibilities of the private operator in this innovative public-private partnership. It also outlines the rates, schedules and restrictions. Introducing a more general, and targeted congestion pricing strategy on the Chicago Skyway will require concessionaire and Chicago City Council approval. Thus the terms of any specific congestion pricing structure will be subject to negotiations between the City of Chicago as owner and the Skyway Concession Company LLC as operator.

Traffic and revenue factors will necessarily impact the congestion pricing structure. The level of congestion, and the ability to guarantee a higher level of service in exchange for the higher peak traffic period toll rate, however, are expected to make congestion pricing economically and institutionally feasible on the Skyway.

d) Targeted Car Sharing in the Central Area

Expansion of the regional car-sharing program to target the Central Area is also included in our request for funding as an eligible project under the VPP. The existing I-GO Car Sharing serves the Chicago region with economical and environmentally sound transportation choices. Car sharing provides members with mobility when they need it, without the expense of owning a car. I-GO Car Sharing is Chicago's only certified car sharing organization and uses all EPA-rated low-emissions, best-in-class fuel-efficient vehicles. The Center for Neighborhood Technology (CNT), a 501(c)(3) organization, is our regional partner in the strategy to support and encourage the transit option for travel to/from the Central Area. The Central Area car-sharing program will make cars available to Central Area located

workers who need occasional access to an automobile for business or work related transport. Doing so will make transit a more attractive option.

CNT serves all neighborhoods and works closely with public agencies to improve transportation. Our goals are to reduce car ownership and congestion, improve air quality, curb greenhouse gas emissions, and save families' transportation costs. Launched in 2002 by the innovative Center for Neighborhood Technology, I-GO brought car sharing to the region.

I-GO will contract with public agencies to operate value-priced car sharing to support Chicago's Urban Partnership Program and congestion pricing strategies. I-GO uses all low-emissions, high fuel efficiency vehicles. Each I-GO shared car replaces 17 private vehicles and members reduce their annual driving by 5,000 miles per person.

Car sharing allows people to live car-free by increasing their mobility options; and it works together with transit to support commuters who shift travel modes in response to congestion pricing strategies. The Chicago Region Urban Partnership Program requests $405,000 under the Value Pricing Program (VPP) funds to significantly expand I-GO Car Sharing in the Chicago area and connect it with transit. VPP funds will be dedicated to I-GO targeted capital investment in hybrid vehicles, parking and signage, and membership expansion.

Car sharing is an effective value pricing strategy that immediately reduces congestion by pricing vehicles by the trip and driving by the mile. Car sharing is proven to reduce automobile ownership and vehicle miles traveled among its members, and to increase their use of other transportation modes. The federal VPP Program explicitly names car sharing as a value pricing strategy, especially when used in conjunction with regional congestion road pricing and parking pricing strategies.

I-GO proposes to use VPP funds to purchase and locate thirty fuel-efficient hybrid gas-electric vehicles at Central Area and other popular transit destinations within congestion pricing districts. These cars will support commuters who shift their journey-to-work from driving to transit in response to congestion pricing strategies. With car sharing, commuters into the district can more readily leave their car at home during peak travel times and still have access to a car on demand during the day. District residents can also use these shared cars in place of car ownership. Driving into and around targeted locations will

be reduced, as will parking demand. VPP funds will cover the price differential between standard vehicles and hybrids, parking costs, and marketing, and will be matched by I-GO funds for standard vehicle leases. I-GO will rent highly visible and accessible parking spaces, which will serve as a critical outreach tool to generate new members in addition to providing convenience for members.

Additionally, I-GO will use VPP funds to underwrite joining fees and provide car sharing membership to 1,000 transit pass-holders in the region. This includes Chicago Transit Authority (CTA), PACE Bus, Metra, and Amtrak commuters. Transit users are a very successful demographic for car sharing: Only 7 percent of I-GO current members own a vehicle, and car locations in transit-heavy neighborhoods ramp-up quickly and have high usage. Complimentary enrollment in I-GO car sharing will provide an extra incentive for commuters to purchase transit passes, which increases transit usage, and will make it easier to participate in car sharing by lowering the initial barriers to participation. Overtly connecting these transportation modes will benefit commuters and get cars off the road, especially at peak commute hours. Funds will support complimentary enrollment for 1,000 new I-GO members.

e) Preparation and analysis of a cordon pricing strategy for the CBD

The City of Chicago recognizes the potential effectiveness of pricing to induce the behavioral change needed to eliminate congestion and the institutional and political realities associated with such a fundamental shift in public policy toward transportation. Experience has also dictated that congestion pricing is most effective when it is well designed, preceded by significant enhancements of existing and provision of new travel alternatives, and accompanied by a well conceived and delivered educational and outreach campaign to educate and inform people about the reasons for, and expected benefits of a coordinated program to fight congestion which includes value pricing. To accomplish our shared objectives the City of Chicago will actively participate in an analysis of cordon-based and other value pricing strategies that might be implemented in the City and the region to address congestion. To complement this analysis, the City proposes to proceed with the pricing strategies described above, to implement improvements that will provide viable options to travelers, and to undertake outreach that encourages public participation and discussion of this issue.

One option to be evaluated consists of charging for vehicles entering the core of Chicago's Central Area, known as the Loop. Vehicles entering the Loop during business hours would be charged a fee for crossing a cordon surrounding the core Central Area. The fee would vary by time-of-day with those entering during the peak congested hours charged a higher fee.

The feasibility, design, and impacts of a possible pilot program involving cordon based pricing or other congestion pricing options would be evaluated. For example, an option that would charge only trucks making deliveries in the Loop during hours with greatest congestion (7:30-9:00 AM, 11:30 AM-1:30 PM, 3:00-6:00 PM) could represent the initial program. Such a program could be extended to all hours with a higher rate during the peak hours. The potential for the congestion pricing to apply to auto trips also would be evaluated depending on the success of the phase for trucks only.

An estimated 220,000 vehicles enter the Loop on an average weekday, and estimated 17,000 of which are trucks. Most of the entryways to the Loop are already operating at level of service (LOS) E during the peak hours, and even a small increase in traffic will result in an LOS of F. Based on this information, the Chicago Central Area Plan (2002) recommended ways of reducing the growth of vehicular traffic, especially into the Loop.

The cost to the City is highest during peak periods and is related to traffic volumes and congestion. This congestion also reduces the attractiveness of the inner core because of the extra time needed by commuters to arrive at their workplace. By adding a toll during peak periods, it is expected that traffic would be shifted to the off-peak, making entry easier for those who depend on effective access and smooth traffic flow for business.

Congestion fees for entering central business districts have already been developed in cities throughout the world such as London. Stockholm and Singapore. In these cases, the congestion charge attempts to reduce congestion by limiting the number of entering vehicles, and to provide revenue for infrastructure including public transportation.

Several technologies will be considered depending on the congestion pricing option being evaluated. The specific technology is expected to be compatible with I-Pass system currently used on both the Illinois Tollway and the Chicago Skyway. This system, in turn, is compatible

with EZ pass used on roadways and bridges in the eastern part of the United States.

For example, a cordon based system would have 30 control points at the outer part of the Loop, located on or just west of entrances to bridges over the Chicago River and along one of the east-west streets that would form the southern cordon of the Loop. All vehicles entering the congestion zone would be charged based on time of day under such an option. Drivers would have an electronic transponder that communicates with the toll plaza, automatically recording the charge. Similar to the I-Pass system, vehicles with transponders might receive a discount on tolls. The transponders would communicate with a central computer. To enforce the system, cameras, also located at the boundary, would capture image of license plates of vehicles that did not pay or that were not equipped with a transponder. Such entering vehicles would be compared to a database of registered vehicles and appropriate fees assessed similar to the red-light enforcement program currently operated by the City of Chicago.

Another aspect of the evaluation will be to assess the impact on traffic, revenue, and other issues of various toll rates and charging strategies. The overall goal would be to prevent a deterioration of traffic flow and increased congestion as measured by the level of service (LOS) at entry points to the core of the Central Area. In the truck-only case the strategy might be expected to reduce the growth of truck operations during peak hours, and provide incentives for truck operators to reduce overall operations by consolidating shipments. It might be possible then to reduce truck traffic by as much as 25%. At that level of possible reductions in the number of trucks during the business hours in the core of the Central Area, a goal of average speeds of 10 mph might be attained. A subsidiary goal would be to provide sufficient revenue for the maintenance of infrastructure and to support the enhancements required to offer attractive travel alternatives. A preliminary estimate of the cost of the program including the installation of detectors, cameras for enforcement is about $45 million total.

B. Illinois Tollway Congestion Pricing

Thus, the Partnership is proposing a congestion reduction demonstration that will, by design, reduce congestion. The Northwest Tollway “breaks down” regularly, running at level of service F. The

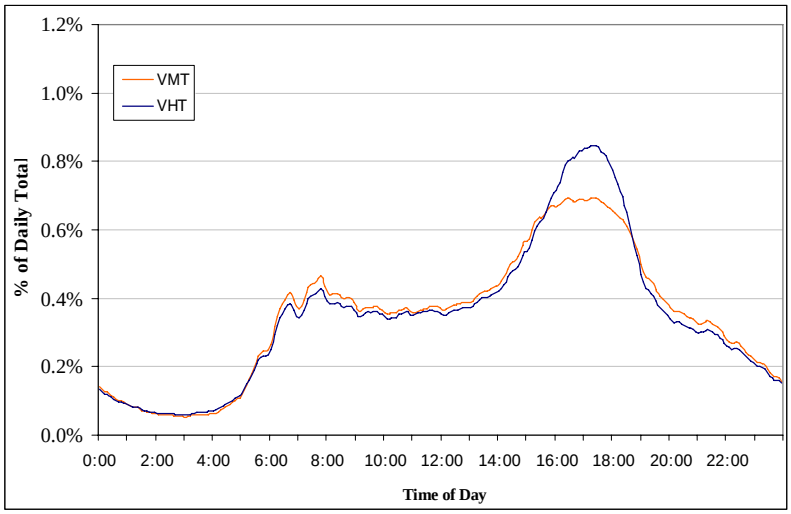
Partnership intends that road-priced sections will run at level of service C or D (free-flow).

Congestion pricing will be used to encourage travelers to shift travel from congested to uncongested times of day, from single-occupant vehicle mode to transit, ridesharing, or to alternate, un-priced routes. Congestion-pricing on roads will keep the roads operating reliably at high speeds, thus maximizing vehicle throughput. These reliable high speeds created by congestion pricing will also facilitate high-speed, reliable bus transit operations.

The Partnership intends to set prices so that peak-period level of service changes from LOS F to LOS C or D, subject to further study. Vehicle classes affected will include passenger autos to have the desired impact. Application to other vehicle classes will be studied.

Congestion on the Northwest Tollway lends itself to a solution through congestion pricing. The congestion is during peak periods, with defined shoulders, so that temporal diversion of trips is possible. Congestion is not so pervasive as in other parts of the region, so the fees necessary to alleviate the congestion may not need to be so high as to appear draconian to the average person. See Figure 2.

Figure 2. Northwest Tollway Congestion Profile
Showing VMT and VHT by Time of Day



The Chicago Metropolitan Urban Partnership's comprehensive congestion reduction strategy includes several new Pace point-to-point free-flow freeway-speed suburban express and arterial rapid transit services with headways as low as 15 minutes. Many of these services will feed into the Chicago Transit Authority (CTA) Blue Line Service,

running along I-90. The Partnership is seeking to improve the Blue Line by the elimination of slow zones afflicting more than 60,000 feet of the line, mostly between O'Hare and downtown Chicago, with speeds as low as 15 miles per hour. Eliminating these slow zones as we propose will reduce downtown to O'Hare running times by 10 minutes or more. Also, CTA is seeking to improve transit service reliability by purchasing 41 new buses and by deploying automatic vehicle location information, for better supervision and for the public.

3. Identification of facilities affected

The pricing components will have a major impact on the facilities directly affected by the congestion based pricing. These include the Northwest Tollway, the Chicago Skyway and the Central Area in the I-90 Corridor. Affected routes include not only I-90 but intersecting roads I-290, I-294 (a toll road), I-55, and I-94, which runs with I-90 through much of the City of Chicago.

Three locations on the I-90 corridor within Chicago have been identified by FHWA as significant truck bottlenecks (*Initial Assessment of Freight Bottlenecks on Highways, FHWA, October, 2005).* While this assessment was somewhat crude, it points to the corridor's mix of large truck volumes and high levels of congestion being ripe for solutions.

Deploying congestion prices in the Central Area will support and reinforce the I-90 congestion pricing strategy. Variable, congestion based, pricing for off-street parking and variable fees for on-street truck loading zones in the Central Area Will reduce vehicular use, vehicles miles traveled, and congestion in the Central Area itself. It will also help reduce congestion in all expressway corridors leading to/from the Central Area including the Kennedy Expressway (I-90/94) to the northwest, the Dan Ryan Expressway (I90-94 to the South and Southeast), the Stevenson Expressway (I-55) to the southwest, and I-290 to the west.

No HOV facilities exist in northeastern Illinois. An HOV lane is planned for I-290 in the west suburbs, but is not funded at this time. The new HOV facility may be studied as an HOT facility, if appropriate, since it acts as an alternate to the I-90 corridor.

4. Plan for Implementing or Modifying Tolls

The Illinois Tollway has the authority to implement congestion tolling on the Northwest Tollway. Under the Chicago Urban Partnership the Tollway will develop a proposed congestion tolling schedule of rates and timeframe for implementation for consideration and adoption by the Board of the Illinois Tollway. A noted, the Illinois Tollway has already implemented a modest version of congestion tolling for commercial vehicles. Tolls are collected for 80% of Tollway users with radio frequency ID and dedicated short-range communications (RFID – DSRC) technologies, offered at steep discounts to cash fares. This I-Pass electronic toll collection technologies and system-wide Open Road Tolling program will facilitate timely implementation of the congestion tolling program approved by the Board.

The City of Chicago has the authority to implement parking taxes and truck loading zone fees in the City. Under the Chicago Urban Partnership the City of Chicago acting through its Department of Revenue (DOR) will develop a proposed variable pricing parking tax schedule of rates and timeframe for implementation for consideration and adoption by the Chicago City Council. As noted, the DOR has already implemented a parking tax and loading zone fee program. The City's existing parking tax and fee collection programs and systems will facilitate timely implementation of the congestion pricing program approved by the Chicago City Council and the Mayor of Chicago.

A detailed economic analysis of the proposed tolling sites will be necessary to assure that we are successful in reaching our goals, particularly for the road pricing projects. Some of the tolling initiatives "for study only" may require legislative approval. Technical success in early congestion pricing initiatives may smooth the way for future success with the legislature.

While further analysis is ongoing, it appears that roads should be priced so that peak vehicles per hour per lane will not exceed 1500-1700.

Note that some pitfalls for congestion pricing will not be problematic in Chicago, since there are technologies, enforcement mechanisms, and operations in place for the congestion pricing we are envisioning. However, the institutional mechanisms for financing some of the alternatives to congestion priced facilities using those revenues are not in place, and may present difficulties.

5. Anticipated Effects

We anticipate that the primary effect of the program as proposed will be the elimination of recurrent congestion on the Northwest Tollway and the Chicago Skyway. In addition, reductions in congestion may be evident on other sections of I-90 and perhaps some intersecting roads.

We expect road pricing to encourage some current road users to telecommute, use transit, to travel at non-congestion-priced times of day, or to change trip behavior.

As noted earlier, better transit is a key component of a congestion pricing strategy: more reliable transit travel times, more frequent transit trips, and faster travel speeds. The Partnership proposes improved transit options as part of its program. For example, congestion pricing on the Northwest Tollway will be accompanied by express point-to-point transit operating at highway speed, as well as arterial rapid transit services.

The Parking Pricing component of the **Smart Moves Chicago** program will reduce auto trips to, and vehicular travel in the Central Area. It will also produce shifts in the time of drive trips to the Central Area out of the peak periods and into the shoulder periods to reduce peak period congestion. The Parking Pricing strategy will be combined with enhanced transit services and traveler information services to encourage greater use of transit for travel to the Central Area. Walking and bicycling to transit and within the Central area will be made more attractive.

The Variable Commercial Vehicle Loading Fees component of the **Smart Moves Chicago** Program will reduce truck traffic in the Central Area during the peak periods. Trucks have a disproportionate impact on traffic congestion both due to their mechanical characteristics and due to the inordinate space and time they occupy the severely limited roadway and loading facilities in the Central Area. The Variable Loading Fee strategy will encourage shifts in loading activity to periods outside the peak, and consolidation of pick-ups and deliveries. When combined with the elimination of on-street parking and the designation o strategic loading areas, will eliminate the double –parked trucks which cause a significant congestion problem on the narrow, closely spaced downtown street network.

The analysis of the cordon based pricing strategy and other pricing strategies offer the opportunity to implement a program that could

reduce traffic in the Central Area, on roadways leading to and from the Central Area, and throughout the region. The cordon pricing strategy, for example, may shift vehicular traffic away from the peak congestion periods and areas if the analysis demonstrates, and the preparation confirms that it can be implemented effectively.

Car Sharing

Car sharing reduces congestion by taking private cars off the road, dramatically reducing the miles members' drive, and spreading the remaining miles out across the day. Each I-GO car replaces 17 private cars as nearly half of its members sell or postpone purchase of cars when they join. Car sharing is the only program in North America shown to reduce car ownership at such a significant rate. All costs of driving—including insurance and capital costs—are then charged by the hour and mile, rather than being fixed annually. As a result, car sharing participants follow economic incentives to walk, bike and take transit more. They combine errands, carpool, and make shorter trips when they do drive. Members drive 87 percent less per year than Chicago car owners, and I-GO's current 5,000 members will reduce driving by an aggregate of 25 millions miles over the course of a year. This results directly in reduced congestion on the road. Additionally, since dozens of members are sharing one car, their multiple car trips are by necessity staggered throughout the day.

In 2006 I-GO Car Sharing helped to reduce driving by 13.7 million miles, air pollution by 27.5 metric tons, and greenhouse gas emissions by 4,800 metric tons. By replacing private cars and pricing driving by the hour and mile, each I-GO vehicle reduces annual driving on our roads by 5,000 miles per member or 190,350 miles per I-GO car.

6. Equity Impacts

Pricing is likely to have a differential impact on various segments of the population. The Chicago Urban Partners recognize that they will need not only to assess these impacts in detail.

Congestion pricing will place additional burdens on people with low incomes. These burdens will need to be addressed.

More positively, we know that congestion now disproportionately affects people with low incomes (see Table 2, page 9, and related research). Easing congestion will reduce the burden of slow moving traffic and pollution near their residences and will speed up their travel.

In addition, planned transit improvement – a central element of this program – may tend to help people with low incomes.

Clearly more research is needed and is planned as congestion pricing is studied further.

7. Role of Alternative Modes

Transit will necessarily play a critical role in the successful implementation of the **Smart Moves Chicago** program. The program is structured to implement the transit and related improvements in advance of the imposition of the congestion charges. This provides viable options for travelers not wishing to pay the congestion charge. By making transit more accessible, by improving the quality of transit services, and by increasing or restructuring rail and bus transit services in the key corridors, transit is expected to play a major role in support of the **Smart Moves Chicago** Congestion Initiative.

The Chicago Metropolitan Urban Partnership's comprehensive congestion reduction strategy includes several new Pace point-to-point free-flow freeway-speed suburban express and arterial rapid transit services with headways as low as 15 minutes. Many of these services will feed into the Chicago Transit Authority (CTA) Blue Line Service, running along I-90. The Partnership is seeking to improve the Blue Line by the elimination of slow zones afflicting more than 60,000 feet of the line, mostly between O'Hare and downtown Chicago, with speeds as low as 15 miles per hour. Eliminating these slow zones as we propose will reduce downtown to O'Hare running times by 10 minutes or more. Also, CTA is seeking to improve transit service reliability by purchasing 41 new buses and by deploying automatic vehicle location information, for better supervision and for the public.

Many of the proposed services by the Urban Partnership are designed to be attractive to people who now use their automobiles. Therefore, the quality standards for the new service are expected to be high, with features like branded, modular stations that will include specially-designed bus poles, information kiosks (including system map, schedules and real-time information display), shelters, and benches. Service will be on low-floor buses for easy boarding and alighting.

Walking and bicycling are also important alternative modes for this project. Transit use requires a good walking environment. This

walking environment will be improved in station areas in the ART and express transit services. Likewise, Chicago works because Chicago walks. Walking volumes on downtown streets are often higher that auto volumes. Walking will become even more important downtown. In addition, the reach of transit trips downtown will be strengthened with the introduction of new self-service bicycle rental stations, expected to increase bicycle use in the central area dramatically and to make transit trips more attractive for those who need to travel more than a short walk away from the stations.

8. Description of Tasks
And
9. Task Timeline

The Chicago Urban Partners are committed to implementing the pricing program described above within two years of receiving funding for the Chicago Congestion Initiative program. The supporting projects of transit enhancements, technology deployments, and telecommuting and demand management, as well as the public education and outreach will be implemented during the earliest phases of the program. Once these alternatives are in place the pricing components of the program will be implemented.

To implement the Partnership activities, the Partnership proposes the following schedule, subject to approvals:

2007
Federal and state agreements
Intergovernmental agreements drafted
Necessary board endorsements
Public information and outreach
Engineering & economic evaluation
Program evaluation and integration
Public involvement

2008
Intergovernmental agreements approved
Legal authority granted
Engineering & economic evaluation
Program evaluation and integration
Public involvement
Communications infrastructure

2009
Engineering & economic evaluation
Program evaluation and integration
Public involvement
Communications infrastructure
Public information and outreach
Construction
Phase-in of program elements not requiring construction

2010
Engineering & economic evaluation
Program evaluation and integration
Public involvement
Communications infrastructure
Public information and outreach
Construction
Phase-in of construction and non-construction program elements

2011
Program evaluation and integration
Public involvement
Complete phase-in of substantial part of program elements

An early task timeline is presented above, subject to discussion.

Once pricing is in place and begins to generate revenues, these revenues will be used to support operation and management of the entire Chicago Congestion Initiative program of supportive projects and strategies.

9. Project Budget

The budget for the Value Pricing components of the Congestion Initiative is summarized in Table 4.

Table 4
Value Pricing Program Costs

	Costs				
VPP Component	Item	Unit cost ($)	Unit	# Units	Est. cost ($000)
Variable Parking Pricing - Central Area	Data Acquisition Network/Software	$150,000	Each	1	$150,000
	Central Validation/Processing Software	$450,000	Each	1	$450,000
	Distribution/Interface Systems Software	$100,000	Each	1	$100,000
	Arterial VMS Equipment and Installation	$100,000	Each	28	$2,800,000
	Integration with Traffic Management Center and Revenue Systems	$500,000	Each	1	$500,000
Subtotal Capital					$4,000,000
	Collection, Operation and Maintenance	$500,000	Year	3	$1,500,000
Truck Loading Fees - Central Area	Pay and Display Kiosks	$11,000	Each	500	$5,500,000
	Collection, Operation, and Maintenance	$500,000	Year	3	$1,500,000
Car Sharing -Central Area	Hybrid Vehicle Lease	$9,800	Each	30	$294,000

	Collection, Operation, and Maintenance	$255,000	Year	1	$255,000
Congestion Pricing Study (incl Central Area Cordon)	Feasibility and Planning Analysis	$900,000	Each	1	$900,000
Northwest Tollway					
Capital	Mainline Toll Plazas Signage DMS'	$750,000	Each	6	$4,500,000
	Interchange Toll Plaza Signage DMS	$500,000	Each	12	$6,000,000
	Advance Mainline Signage DMS	$500,000	Each	12	$6,000,000
	Advance Arterial Signage DMS	$250,000	Each	40	$10,000,000
	Public Information	$3,000,000	Lump Sum	1	$3,000,000
	Information Technology and System Integration	$750,000	Lump Sum	1	$750,000
	Staff Training	$25,000	Lump Sum	1	$25,000
	Engineering and Economic Evaluation	25%		1	$7,568,750
	Miscellaneous and Contingencies	15%			$4,541,250
Operating	Customer Service	$250,000	Year	3	$750,000
	Enforcement	$400,000	Year	3	$1,200,000
NW Tollway Transit Operations					
Operating	Golf Rd ART	2000000	Year	3	$6,000,000
	Milwaukee Ave ART	400000	Year	3	$1,200,000
	Higgins Rd ART	1200000	Year	3	$3,600,000
	I-90 Point to Point	2000000	Year	3	$6,000,000
	Northwest Feeders	1,000,000	Year	3	3,000,000
Suburban Telecommute	Suburban Corridors	1000000	Year	3	$3,000,000

Note: If the Central Area Cordon were feasible and effective, and supported for implementation, its costs might be as follows:

Central Area Cordon Implementation (if feasible)	Reader, CCTV, Equipment and Installation	$1,500,000	Each	30	$45,000,000
	Collection, Operation, and Maintenance	$4,000,000	Year	3	$12,000,000

11. Plan to Monitor, Evaluate

The Chicago Partners understand that evaluation is an absolutely central component of the UPA and individual programs like the ITS-OTMC. Although reducing congestion in the Chicago region is of course the primary goal for the region, we understand that USDOT's interest is in improving the understanding of what works—how, why, and how activities in Chicago will translate to the many other regions throughout the country facing similar congestion challenges. These evaluation needs include both a heavy emphasis on "system impacts", quantifiable, before-after measurement of congestion levels and other key parameters associated with the various strategies that will be implemented, along with "knowledge transfer", capturing all of the lessons learned that will help USDOT and agencies around the country refine their congestion mitigation policies and strategies. With this understanding, the Chicago Partners have placed evaluation considerations at the center of our program development activities and have made a strong, serious commitment to evaluation.

The Chicago region's commitment to evaluation—to capturing not only quantifiable measures of the effectiveness of various strategies but also the many lessons learned and findings related to "process"—is demonstrated by the following:

1. Reviewed Guidance. We have carefully reviewed the various USDOT ITS evaluation guidance documents, including the TEA-21 Evaluation Guidelines, ITS Evaluation Resource Guide, ITS Integration Self-Evaluation Guidelines, and ITS Integration Program Unit Cost Collection Guidelines.

2. Carefully Considered Evaluation Issues. As part of our background data gathering in developing this application we have discussed evaluation issues and strategies with organizations with extensive experience in conducting evaluations of major ITS deployments, including national model deployments and other major federal demonstrations.

3. Partnering with Regional University and Research Organizations. The Chicago region hosts nationally known university and research institutions, which have a long history of working with the Chicago Partners to conduct technical analysis and evaluations. The Chicago Partners would use this resource base to assist in the development and execution of a comprehensive evaluation program. Many of these institutions have participated in the discussions and debate that have culminated in the program of projects and strategies included in the regional Congestion Initiative. We propose to build on these discussions and to make full use of the locally available university and research resources to conduct he data collection, analysis, and assessments that will be incorporated in the regional program and to coordinate these efforts with the national evaluation team.

4. Synergistic Partnering with the National Evaluator. We are fully committed to working closely and cooperatively with USDOT's third-party evaluator and view the relationship between local and federal evaluation activities as a partnership. We are prepared to embrace the involvement of the national evaluator and provide them access to our process from concept refinement through post-implementation. The Chicago Region understands the various milestones and deliverables associated with the national evaluation (e.g., an Evaluation Plan containing goals, objectives, testable hypotheses, etc., Detailed Test Plans, Baseline Data Collection and Analysis, and Post-Implementation Data Collection and Analysis) and is committed to participating vigorously in their development.

Key aspects of the overall evaluation strategy that the Chicago Partners will bring to the UTA, VPP, ITS-OTMC and other program implementations include the following:

- **Evaluation considerations central to project concepts.** We understand that the value of any congestion reductions is greatly diminished from USDOT's perspective if those reductions cannot be quantified and if the specific mechanisms for realizing those reductions—the causes and effects—as well as various lessons learned, are not captured. For that reason, the ability to capture and understand impacts has been a central consideration in our development of specific strategies. For

example, it is one of the key reasons that the Chicago Region has chosen to focus on specific travel corridors.

- **Building in data capture mechanisms during design.** Our strategy is to work closely with the national evaluator early in the process to identify key hypotheses and the associated data requirements, and then to build mechanisms for capturing, archiving and sharing key data into the project designs.
- **Address extraneous factors.** Extraneous factors—factors like weather and construction that impact congestion but which are unrelated to mitigation strategies—represent a major evaluation challenge. Methods for controlling for extraneous factors will be central in the development of our detailed evaluation approach. Indeed, several extraneous factors like planned roadway construction have played a key role in the Chicago region's selection of demonstration travel corridors. Overall, it will not be impossible to completely eliminate extraneous factors. Rather, the general strategy is to attempt to control for the influence of these factors, mostly by identifying "before" and "after" evaluation conditions with comparable levels of extraneous factor influence.
- **"Tracing" modal and temporal shifts through the "yoked push-pull strategy pairs".** The notion of "pushes" (forces to remove travelers from targeted roadways at specific times) and "pulls" (forces to attract travelers to alternative roadways, modes, and travel times as well as to eliminate trips entirely, e.g., through telecommuting) are central to our congestion mitigation strategy. We have identified what travel behavior changes we are trying to influence and have developed various push and pull strategies to affect them. These pushes and pulls are "yoked", or "paired" in so much as in order to be effective, an given push and pull must operate on the same set of travelers in order to be effective. Such a linking of push and pull strategy elements is highly conducive to evaluation and our evaluation strategy will include not only assessment of outcomes (congestion reduction) but also the effectiveness of various push-pull strategy combinations.

Specific Evaluation Approach

Overall, the Chicago partners believe that the appropriate time to develop the specific evaluation strategy is during the design and implementation of the congestion mitigation projects. At that time, the national evaluator will be on board and able to work cooperatively

with the Chicago partners to ensure that all local and national evaluation needs are fully met and that mechanisms to collect necessary evaluation data are incorporated into the technical and institutional designs for the projects. Key elements of the specific evaluation strategy are expected to include the following:

- A primary focus on quantification of congestion reductions (before-after) on the three controlled-access, primary study routes: The Stevenson Expressway (I-55), the Northwest Tollway (I-90), and the Skyway (I-90). A preference will be placed on "a few good measures"—simple statistics meaningful to the public and decision makers (e.g., travel times) which can be accurately collected and which support before-after comparisons. The "few good measures" approach would apply equally to assess the congestion impacts of the Central Area strategies proposed as part of the coordinated strategy.
- A supporting focus on quantifying the before-after impacts of the various "push" and "pull" strategies aimed at reducing congestion on the three study routes. That is, "tracing" person trips displaced by congestion pricing on the study routes to other roadways, to new and improved transit services, etc.
- Extensive utilization of various quantitative "system data" (e.g., bus ridership, congestion statistics, etc.) coupled with qualitative data like surveys and interviews, including making key project partners available to the national evaluator for gathering of lessons learned and "process"-related findings.
- Development of specific objectives for the overall implementation and for individual strategies.
- Development of impact hypotheses for the individual strategies.

12. Finance and Revenue Plan

The goal of the Chicago Urban Partners is to apply some or all of the revenues generated by the various congestion pricing strategies to support implementation, operations, management, and maintenance of the transit, technology, and telecommuting supporting components of the program. Preliminary analysis indicates that the congestion pricing strategies will produce significant revenues that may be available for this purpose. Allocating these revenues to such uses may also require legislative and policy changes. The Chicago Urban Partners will work to accomplish this goal and to seek the legislative authority required to achieve it.

Preliminary analysis of the revenue that can be expected from congestion pricing on the Illinois Tollway has not been completed.

Preliminary analysis of the revenue that can be expected from congestion pricing on the Chicago Skyway has not been completed.

Variable pricing of parking in the Central Area will apply to the more than 105,000 off-street parking spaces located there. The complimentary Parking Management and Advisory System (PMAS) will facilitate implementation of this strategy. The City has separately applied for Congestion Mitigation and Air Quality (CMAQ) funding for the PMAS project. The preliminary analysis of the variable pricing of off-street parking strategy, based on assumed congestion price rates indicates that each dollar of hourly congestion based parking tax may be expected to generate between $18 to $20 million annually. The current fixed parking tax rate of $2.50 per day per space would be increaded significantly under this scenario. Under the preliminary assumptions vehicular trips to /from the Central Area are expected to decrease by 7% to 10%. By combining the pricing strategy with quality real-time information on parking conditions, availability, locations, and rates via Internet, mobile devices, and strategically located Dynamic Message Signs, recirculating autos are expected to also be significantly reduces thereby decreasing vehicular traffic volumes and VMT through a multiplier impact.

Congestion based fees for the 400-500 truck loading zones in the Central Area are expected to generate between $2 to $4 million annually. The congestion based loading fee strategy would replace the current annual permit charges applied to these on-street facilities. The strategy is expected to significantly reduce double –parked trucks, and to encourage more consolidation of shipment and shorter duration stays in the loading zones.

13. Public Involvement

Early public involvement has occurred in earnest for this program. Discussions of value pricing began in 2003 during discussions regarding financing of the Regional Transportation Plan. Mayor Rupp Srch of Villa Park, in her regular June 2003 letter to fellow suburban mayors, stated “As user fees are contemplated, we expect value pricing to be explored. Examples of value pricing include discounted fares for electronic fare payments to reduce congestion, higher charges for congested times, and higher charges for bottlenecks. If fees must be raised, they can be raised strategically to improve the

performance of the transportation system" (*Letter to Mayors*, June 2003).

Value pricing efforts to date have brought good reviews, since it was clear that there was a mutual benefit for public agency and private person in such transactions (e.g., steep discounts for electronic tolling leading to the open road tolling program of the Illinois Tollway).

Value pricing is endorsed as a strategy of the 2030 Regional Transportation Plan. Value pricing is also recommended as a congestion mitigation strategy in the regional Congestion Management System.

Several interest and advocacy groups are currently investigating the benefits of value pricing. A few of these are involved as Urban Partners. In addition, we have heard concerns from the public and the press about value pricing activities. Thus, we are preparing materials explaining the benefits of congestion pricing so the issue can be considered properly.

14. Plans for Meeting Administrative, Planning and Environmental Requirements.

Issues regarding federal planning and environmental requirements have not been addressed. The Partnership will begin to address these issues if it is "shortlisted" or selected as a partner.

CMAP staff has the capabiltity to address technical planning requirements.

Value pricing is addressed in the 2030 Regional Transportation Plan.

15. Involvement of Private Entities

The Chicago Skyway Toll Bridge is operated by a concessionaire.

I-GO is associated with the Center for Neighborhood Technology, a not-for-profit agency, and is also associated with the Flexcar Network.

16. Compatibility with Other ETC

The value pricing components of the Smart Moves Chicago Congestion Initiative would be implemented using existing electronic payment

technologies and systems. Implementation of the variable parking pricing strategy would use the City's existing parking tax infrastructure. The truck loading zone fees would be implemented through modifications and expansion of the existing pay and display technology and systems. Use of the pay and display system holds the extra advantage that real-time information on loading zone usage and patterns can be used to actively manage the loading zones in response to conditions.

Congestion pricing on the Chicago Skyway would be implemented through the existing I-Pass electronic tolling system. I-Pass is used by both the Chicago Skyway and the Illinois Tollway and is compatible with the EZ-Pass systems used by many toll highway and bridge authorities. Both the Chicago Skyway and the Illinois Tollway are members of the Inter-Agency Group (IAG). There are over two million I-Pass transponders in service in the Chicago metropolitan region. In addition both the Chicago Skyway and the Illinois Tollway have existing congestion pricing strategies in place with variable tolls being assessed on commercial vehicles whereby trucks pay higher rates during peak periods.

11. Other

TRANSPORTATION, COMMUNITY, AND SYSTEM PRESERVATION PROGRAM GRANT APPLICATION

PART A. PROJECT INFORMATION

Fiscal Year:	2007			
Project Title:	**Pedestrian Transit Access**			
Project Location (City/County, State):	Chicago/Cook/Illinois			
GRANTEE CONTACT INFORMATION				
Grantee Contact Name:	David Spacek			
Agency:	Illinois Dept. of Transportation			
Mailing Address (Street/P.O. Box):	300 West Adams Street 2nd Floor			
City, State, Zip code:	Chicago, Illinois 60606			
Phone:	312.793-2154			
Fax:	312.793-1251			
E-Mail:	David.spacek@illinois.gov			
STATE DOT CONTACT INFORMATION				
State Contact Person:	Les Nunes			
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Fax:	217.785.0468			
E-Mail:	leslie.nunes@illinois.gov			
FHWA DIVISION OFFICE CONTACT INFORMATION				
Division Contact Person:	Chris Byars			
Phone:	312.886.1606			
Fax:	312.353.3925			
E-Mail:	chris.byars@fhwa.dot.gov			
CONGRESSIONAL INFORMATION				
Congress Member:	Schakowsky, Guitierrez, Emmanual			
Congressional District No.:	IL 9th, IL 4th, IL 5th			
TCSP Program Funds:	$1,120,000.00			
Matching Funds/In-kind Services Value:	$280,000.00			
Matching Funds/In-kind Services Source:	Cash- City of Chicago Funds			
Total TCSP-Related Project Costs:	$1,400,000.00			
TO BE COMPLETED BY THE DIVISION OFFICE				
State Administered?		Yes		No
Division Administered?		Yes		No
Date grant application approved by FHWA Division Office				

PART B. PROJECT ABSTRACT

This project will supplement the “Front Door Program” of the Chicago Transit Authority to improve the safety, convenience, and accessibility for pedestrians to transit stations on the CTA Blue Line, which provides rail transit services between Chicago O’Hare International Airport and the Chicago Central Business District. The project is coordinated with, and supportive of, the Value Pricing, Intelligent Transportation technology, and transit projects and strategies included in the **Chicago Smart Moves** component of the regional Urban Partnership Agreement Congestion Initiative.

PART C. PROJECT NARRATIVE

This project seeks to improve access to seven (7) Chicago Transit Authority train stations along the expressway corridors to enable and encourage an alternative to auto travel, and reduce congestion on I-90, the Kennedy Expressway. The stations include Cumberland, Harlem, Montrose, Addison, Belmont, Division, and Chicago Avenue. In 2006, the combined weekday entering volume for the seven stations was 24,000.

Intersections near these transit stops are marked by heavy traffic volumes and aging infrastructure that discourage urban commuters from walking to transit. Transit facilities that are pleasing, safe and inviting will attract and retain new riders and offer an effective option to support the behavioral changes motivated by the value pricing strategies and other projects proposed in the Chicago Urban Partnership Agreement Congestion Initiative.

Safety: The Pedestrian Transit Access Project will develop, design, and construct appropriate intersection improvements that enhance pedestrian mobility and do not adversely affect auto traffic. Components of the project include new sidewalks and curb cuts, pedestrian refuge islands, bump outs and landscaping, all designed to reduce pedestrian exposure to fast-moving traffic, and facilitating transit use. The potential for pedestrian-vehicle accidents will be reduced substantially in areas where the improvements are implemented.

Addressing High Crash Rates. Partly due to the high share of residents without autos and the large number of trips made by walking, Chicago has a relatively high pedestrian-vehicle crash rate. Chicago is identified as a “focus city” for pedestrian safety by FHWA. This project will address those safety issues, reducing crashes in areas of high pedestrian and vehicular traffic. An added benefit is expected to be increased transit use, which has a very low fatality rate.

The Mayor’s Pedestrian Advisory Committee (MPAC) includes public and private sector members, community leaders, safety and health professionals, and citizens. The MPAC is leading the major “Safe Streets for Chicago” initiative to identify pedestrian safety needs and to implement projects and strategies to address these needs.

The introduction of pedestrian count-down signals, median refuge islands, curb bump-outs, and other improvements included at transit stations under this project will shorten

the time of pedestrian exposure to accidents and result in improved safety for transit users and others.

Innovative Safety Design and Operations. The project will include intersection improvements including count-down signals and leading pedestrian intervals for pedestrians and full access people with disabilities. In workshops conducted by FHWA, the City of Chicago and the metropolitan area have identified innovations to employ in pedestrian signaling and crossings that will be employed in this project. A set of innovations with significant crash reduction factors has been identified in the 2006 update to the 2030 Regional Transportation Plan that guide pedestrian safety improvements to implement.

Innovative Construction. Construction will utilize established maintenance of traffic and safety procedures established by the City.

Relieving Congestion. Chicago is one of the urban areas with the highest levels of traffic congestion. The makes transit a more attractive alternative to driving, by providing safe and convenient access for pedestrians, thus reducing the overall impedance by transit compared to a trip by single occupant auto. When combined with the congestion tolls, transit service improvements including express bus and Blue Line track upgrades, park and ride lot improvements, and real time transit information at bus stops and stations proposed for the I-90 (Northwest) Corridor, and with the value pricing, pedestrian, and transit improvements proposed for the Chicago Central Area, this project will encourage increased transit use in this key corridor.

This project is an integral element of the Chicago Metropolitan Urban Partnership's program of congestion relief, facilitating transit use and enabling congestion pricing to have its desired outcomes.

Employing Operational and Technological Improvements. Pedestrian count-down signals and leading pedestrian intervals are an important technology to be used in this project. Complimentary projects in the **Smart Moves Chicago** Congestion Initiative include the CTA BusTracker and TrainTracker projects using AVL and information technologies, transit passenger information systems to offer real-time information at bus stops and train stations, the multi-modal trip planning system, and parking management and information systems.

Freight Bottlenecks: The project will reduce congestion in the I-90 Corridor in Chicago, site of three freight bottlenecks identified by FHWA in 2005

Project Goals: Divert Auto Trips to Transit; Improve Safety of Trips to Transit

Project Timeline: Engineering and Construction within 3 years.

TRANSPORTATION, COMMUNITY, AND SYSTEM PRESERVATION PROGRAM GRANT APPLICATION

PART A. PROJECT INFORMATION

Fiscal Year:	2007
Project Title:	**Bike Station: Self-Service Bicycle Rental Program**
Project Location (City/County, State):	Chicago/Cook/Illinois
GRANTEE CONTACT INFORMATION	
Grantee Contact Name:	David Spacek
Agency:	Illinois Dept. of Transportation
Mailing Address (Street/P.O. Box):	300 West Adams Street 2nd Floor
City, State, Zip code:	Chicago, Illinois 60606
Phone:	312.793-2154
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E-Mail:	David.spacek@illinois.gov
STATE DOT CONTACT INFORMATION	
State Contact Person:	Les Nunes
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Fax:	217.785.0468
E-Mail:	leslie.nunes@illinois.gov
FHWA DIVISION OFFICE CONTACT INFORMATION	
Division Contact Person:	Chris Byars
Phone:	312.886.1606
Fax:	312.353.3925
E-Mail:	chris.byars@fhwa.dot.gov
CONGRESSIONAL INFORMATION	
Congress Member:	D. Davis
Congressional District No.:	IL 7th
TCSP Program Funds:	$1,280,000.00
Matching Funds/In-kind Services Value:	$320,000.00
Matching Funds/In-kind Services Source:	Cash - City of Chicago Funds
Total TCSP-Related Project Costs:	$1,600,000.00

TO BE COMPLETED BY THE DIVISION OFFICE				
State Administered?		Yes		No
Division Administered?		Yes		No
Date grant application approved by FHWA Division Office				

PART B. PROJECT ABSTRACT

Funds would be used to establish an automated self-service bicycle rental program in Chicago, enabling people to rent bicycles from one location and return them to another, similar to systems in Amsterdam, Berlin, Brussels, London, and Paris. A fleet of 1000 bicycles is proposed, with rentals intended for short trips, under 5 miles.

The project is coordinated with, and supportive of, the Value Pricing, Intelligent Transportation technology, and transit projects and strategies included in the **Chicago Smart Moves** component of the regional Urban Partnership Agreement

PART C. PROJECT NARRATIVE

Providing bicycle rentals at convenient locations, such as transit stations and large employment centers, would encourage bicycle use so as to encourage access to jobs and services. Two types of trips would be encouraged: trips in conjunction with transit use and short bicycle trips, both replacing motor vehicle trips. This approach to encouraging bicycling has become very successful in Europe. The program objectives complement the value pricing strategies and projects proposed in the Urban Partnership Agreement.

A fleet of 1000 bicycles is proposed. Chicago's program would become the first large automated bicycle rental system in the United States, a model city for other cities to follow. Program success, easy to monitor, will be widely publicized.

Over 500,000 work trips are made to Chicago's Central Area each weekday. Nearly 200,000 daily work trips are made by auto. Auto is also used frequently as a means of transportation of short trips around the Central Area during the workday. The program complements the goals of the Partnership to reduce congestion and vehicle miles traveled by encouraging trips by transit, bicycle, and for short trips by walking.

One obstacle to increased transit use, and the reduction of auto use and resulting congestion, is the distance between transit stations, especially those of the commuter rail system, and ultimate workplace destination. The bicycle rental program is designed to reduce travel time for the egress portion of the commuter trips.

The program is consistent with other City initiatives to achieve the goal of making bicycles a major mode of transportation and increasing transit use, thereby reducing congestion and improving the quality of life and the environment. These initiatives have already resulted in the installation of over 10,000 bike racks, establishing a network of 100 miles of on-street bicycle lanes, and permitting bicycles to be carried transit.

Automated bicycle rental has proven effective in *immediately* reducing traffic congestion. 10,000 additional bicycle trips per day are estimated with this program. Automated self-service bicycle rental systems have been very successful in encouraging bicycling. Bicycle use in Lyon increased by 44% with the establishment of their program, with bicycle rentals now accounting for 25% of bicycle use in Lyon.

Safety: The project will reduce the number of crashes by reducing vehicle miles traveled, converting trips from auto to transit and bicycle modes. This impact is likely to be greatest in and around places where the Bike Station facilities will be located.

Innovative Safety Design and Operations. The project will use information processing and electronic payment technologies to implement the self-service features of the service. The potential to integrate payment with the CTA Chicago Card and Chicago Plus "smart card" automated fare payment systems will be considered for implementation to provide added convenience to the user. Bicycles and related equipment will include appropriate devices to ensure rider safety.

Innovative Construction. All construction done under this project will utilize established maintenance of traffic and safety polices and procedures of the City of Chicago.

Addressing High Crash Rates. Partly due to the high share of residents without autos and the large number of trips made by walking and bicycles, Chicago has a high pedestrian-vehicle crash rate. The City of Chicago is an FHWA Focus city targeted for reductions in roadway accidents involving pedestrians. The Mayor's Pedestrian Advisory Committee (MPAC) includes public and private sector members, community leaders, safety and health professionals, and citizens. The MPAC is leading the major "Safe Streets for Chicago" initiative to identify pedestrian safety needs and to implement projects and strategies to address these needs. Supporting the increased use of non-motorized modes are an important element of the "Safe Streets" initiative.

Relieving Congestion. The project is expected to decrease congestion in the Chicago I-90 (Northwest) Corridor, which is also served by the CTA Blue Line, by shifting those who take auto to their destination to transit, with the bicycles providing a convenient egress mode. By providing convenient bicycle options in the Central Area Corridor the project also supports congestion relief in the Chicago CBD. The project will encourage people to combine transit and bicycle use, instead of traveling by automobile. Congestion will be relieved by providing a convenient, safe and inexpensive place for people to store their bicycles by Chicago's main train station, thereby encouraging people to take transit and complete their trip by bicycle.

Employing Operational and Technological Improvements. The technology is used in cities in Europe. The technology to be employed is the first application in the United States on this scale.

Freight Bottlenecks: The project will reduce congestion in the I-90 Corridor in Chicago, site of three freight bottlenecks identified by FHWA in 2005

Timeline: The City is working to develop a public-private partnership to expand the bicycles available. The project will begin in early 2008 and finish by early 2009.

Project Goals: Divert Auto Trips to Transit and Bicycle; Improve Safety by Reducing VMT.

TRANSPORTATION, COMMUNITY, AND SYSTEM PRESERVATION PROGRAM GRANT APPLICATION

PART A. PROJECT INFORMATION

Fiscal Year	2007
Project Title:	**Chicago Flextime and Telecommute Initiative - For People with Disabilities, Chicago Workforce**
Project Location (City/County, State):	Chicago/Cook/Illinois
GRANTEE CONTACT INFORMATION	
Grantee Contact Name:	David Spacek
Agency:	Illinois Dept. of Transportation
Mailing Address (Street/P.O. Box):	300 West Adams Street 2nd Floor
City, State, Zip code:	Chicago, Illinois 60606
Phone:	312.793-2154
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E-Mail:	David.spacek@illinois.gov
STATE DOT CONTACT INFORMATION	
State Contact Person:	Les Nunes
Phone:	217.785.2994
Fax:	217.785.0468
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FHWA DIVISION OFFICE CONTACT INFORMATION	
Division Contact Person:	Chris Byars
Phone:	312.886.1606
Fax:	312.353.3925
E-Mail:	chris.byars@fhwa.dot.gov
CONGRESSIONAL INFORMATION	
Congress Member:	D. Davis and other Chicago
Congressional District No.:	IL 7th and other Chicago
TCSP Program Funds:	$1,760,000.00
Matching Funds/In-kind Services Value:	$440,000.00
Matching Funds/In-kind Services Source:	Cash - City of Chicago Funds
Total TCSP-Related Project Costs:	$2,200,000.00

TO BE COMPLETED BY THE DIVISION OFFICE				
State Administered?		Yes		No
Division Administered?		Yes		No
Date grant application approved by FHWA Division Office				

PART B. PROJECT ABSTRACT

Funds would be used for development of a flexible time (flextime) alternative work schedule and telecommuting program that would include the purchase of computers and related network connections to permit employees to work flexible hours and/or to work at home. The initial focus of the program will be on persons with disabilities though the program will be expanded to the entire workforce.

The project is coordinated with, and supportive of, the Value Pricing, Intelligent Transportation technology, and transit projects and strategies included in the **Chicago Smart Moves** component of the regional Urban Partnership Agreement.

PART C. PROJECT NARRATIVE

The program would reduce the cost of future transportation investments and maintenance of existing infrastructure by eliminating trips by workers whose assignments can satisfactorily be carried out at home. By removing autos from roadways especially during peak hours, the program would also make the existing roadway infrastructure operate more efficiently with less congestion.

The initial program consists of:

- Outreach by the City of Chicago and other governmental agencies, the Disability Works initiative of the Chicagoland Chamber of Commerce, the Mayor's Office for People with Disabilities, and major businesses in Chicago.
- Recruitment of program participants (employers and qualified job candidates)
- Identification of appropriate technology and systems
- Purchase of up to one thousand computers and network connections that enable those with disabilities to work at home, and maintenance of the system
- Training and supportive services to ensure performance and other needs of both program participants and employers
- Study of the potential effectiveness of program of alternative work schedules and telecommuting that would reduce the number of work trips and congestion.

The program objectives complement the value pricing strategies and projects proposed in the Chicago Urban Partnership Agreement Congestion Initiative that target congestion in the Central Area and two transportation corridors.

Safety: The project reduces the potential for accidents to the extent that it reduces the numbers of daily auto trips thereby reducing the number of vehicles on the regions roadways and the potential for crashes.

Innovative Safety Design and Operations. The project is supportive of the comprehensive **Smart Moves Chicago** Congestion Initiative that involves a variety of information technologies. Integration of the telecommuting component of this project with the city-wide Wi-Fi initiative will be considered and pursued where feasible.

Innovative Construction. No construction is involved in this project.

Addressing High Crash Rates. Though this project does not directly address safety, there are safety benefits to presenting travel alternatives to people with disabilities, who are among the most vulnerable of transportation system users.

Relieving Congestion. The program addresses both the employment needs of people with disabilities, but also would reduce the number of auto trips. Each weekday over one-million work trips (round-trips) are made by Chicago residents, and over 600,000 of these trips are made by auto. Nearly 200,000 auto trips are made into the Central Area, the primary business location in the Chicago region. Although the program would have only a modest impact, this program when combined with other initiatives related to pricing, technology and transit would achieve the goal of reducing the growth in auto use.

Employing Operational and Technological Improvements. Computers and computer networks are used to address congestion and allow persons with disabilities to work at home.

Freight Bottlenecks: The project will reduce congestion in the I-90 Corridor in Chicago, site of three freight bottlenecks identified by FHWA in 2005

Timeline. The program will require a staged approach beginning with outreach and involvement of employers, this would be followed by evaluation of technologies and recruitment and training of participants. The initial focus and recruitment will be persons with disabilities, working closely with the Mayor's Office for Persons with Disabilities (MOPD). As the program continues recruitment will extend to the entire workforce, particularly along those corridors where complimentary projects and strategies are being implemented as part of the regional Congestion Initiative. The actual purchase and installation of the technology would follow.
Outreach to employers– Late 2007
Evaluation of technology – Early 2008
Recruitment of participants – Early 2008
Selection and installation of computers – Late 2008

Program Goals: Reduce VMT and congestion.

TRANSPORTATION, COMMUNITY, AND SYSTEM PRESERVATION PROGRAM GRANT APPLICATION

PART A. PROJECT INFORMATION

Fiscal Year:	2007
Project Title:	**I-GO Car Sharing – City-wide**
Project Location (City/County, State):	Chicago/Cook/Illinois
GRANTEE CONTACT INFORMATION	
Grantee Contact Name:	David Spacek
Agency:	Illinois Dept. of Transportation
Mailing Address (Street/P.O. Box):	300 West Adams Street 2nd Floor
City, State, Zip code:	Chicago, Illinois 60606
Phone:	312.793-2154
Fax:	312.793-1251
E-Mail:	David.spacek@illinois.gov
STATE DOT CONTACT INFORMATION	
State Contact Person:	Les Nunes
Phone:	217.785.2994
Fax:	217.785.0468
E-Mail:	leslie.nunes@illinois.gov
FHWA DIVISION OFFICE CONTACT INFORMATION	
Division Contact Person:	Chris Byars
Phone:	312.886.1606
Fax:	312.353.3925
E-Mail:	chris.byars@fhwa.dot.gov
CONGRESSIONAL INFORMATION	
Congress Member:	D. Davis and other Chicago
Congressional District No.:	IL 7th and other Chicago
TCSP Program Funds:	$400,000.00
Matching Funds/In-kind Services Value:	$130,000.00
Matching Funds/In-kind Services Source:	I-GO Revenues
Total TCSP-Related Project Costs:	$530,000.00

TO BE COMPLETED BY THE DIVISION OFFICE				
State Administered?		Yes		No
Division Administered?		Yes		No
Date grant application approved by FHWA Division Office				

PART B. PROJECT ABSTRACT

Car sharing reduces traffic congestion and car ownership; improves transportation efficiency; curbs greenhouse gas emissions and pollution; and cuts transportation costs, both for families and for the public. I-GO Car Sharing requests $400,000 in Transportation, Community, and System Preservation (TCSP) Program funds to improve transportation efficiency and reduce its environmental impacts by significantly expanding car sharing in all Chicago neighborhoods in 2007-2008. This funding will help us more than double membership and car availability and scale up so that we can serve up to 20 percent of licensed drivers throughout the city.

The project is coordinated with, and supportive of, the Value Pricing, Intelligent Transportation technology, and transit projects and strategies included in the **Chicago Smart Moves** component of the regional Urban Partnership Agreement.

PART C. PROJECT NARRATIVE

I-GO Car Sharing serves the Chicago region with economical and environmentally sound transportation choices. Our goals are to reduce traffic congestion and car ownership; improve air quality; curb greenhouse gas emissions; and cut family transportation costs. We request $400,000 in Transportation, Community, and System Preservation (TCSP) Program funds to improve transportation efficiency and reduce its environmental impacts by significantly expanding car sharing throughout Chicago.

Car sharing improves efficiency in the transportation system and reduces demand for private automobiles, roads, and parking spaces. It provides members with vehicular mobility without ownership expense. With I-GO Car Sharing, dozens of members share one low-emissions car and one home parking space, so that each car is efficiently in use throughout the day. Nearly half of I-GO members report selling or putting off purchase of a car when joining; thus, each I-GO car replaces 17 private vehicles.

Car sharing costs—including insurance and capital costs—are charged by the hour and mile, rather than being fixed annually. As a result of economic incentives, car sharing participants dramatically decrease their driving while increasing transit use, bicycling, walking, trip bundling, and carpooling. Members drive 5,000 miles less per year, on average, than typical Chicago car owners. This means 5 million fewer miles driven per 1,000 car share members per year. In 2006, I-GO Car Sharing helped to reduce driving by 13.7 million miles.

With financial help from TCSP, I-GO will significantly expand Chicago region car sharing in 2007-2008. We will more than double operations by adding 150 cars and 6,000 members during the grant period, to reach 350 shared cars by the end of 2008. TCSP funds will support the capital costs of purchasing hybrid vehicles, underwrite general operating expenses, and fund membership expansion.

Launched in 2002 as a pilot project by Chicago's innovative Center for Neighborhood Technology, I-GO is a non-profit corporation and brought car sharing to the Chicago region. I-GO has had steady growth in membership and vehicles since its inception. In 2006 alone, I-GO doubled its membership and fleet, and will do so again in 2007. We expect to grow to 1,000 fleet cars in the next five years and expand to serve 20 percent

of all licensed drivers in Chicago. With 1,000 cars, I-GO operations would result in 17,000 fewer cars on the roads, and 190 million miles of driving eliminated.

Safety: In Illinois, 86 percent of traffic crash fatalities are occupants of cars or motorcycles; only 14 percent are non-occupants. I-GO Car Sharing reduces car ownership among 46 percent of members, and reduces driving across the entire membership by 87 percent per year. Members walk, take public transit, and bicycle more than the Chicago average. Thus, I-GO members reduce their risk of accident and injury by not driving.

Innovative Safety Design and Operations. The project will use information processing and electronic payment technologies to implement the self-service features of the I-GO car-sharing service. The potential to integrate payment with the CTA Chicago Card and Chicago Plus automated fare payment systems will be considered for implementation to provide added convenience to the user.

Innovative Construction. No construction is involved in this project.

Addressing High Crash Rates. I-GO is located in third largest metropolitan area in the country. Because of its size, Chicago has high numbers of injury and fatalities. I-GO Car Sharing takes cars off the road and reduces driving, thus improving safety for its members and for residents in the region.

Relieving Congestion. Car sharing reduces congestion by taking private cars off the road, dramatically reducing the miles members' drive, and spreading the remaining miles out across the day. Each I-GO car replaces 17 private cars as nearly half of our members sell or postpone purchase of cars when they join. Car sharing is the only program in North America shown to reduce car ownership at such a significant rate. All costs—including insurance and capital costs—are then charged by the hour and mile, rather than being fixed annually. As a result, car sharing participants follow economic incentives and walk, bike and take transit more. They combine errands, carpool, and make shorter trips when they do drive. Members drive 87 percent less per year than Chicago car owners, and our current 5,000 members will reduce driving by 25 millions miles this year. These results directly reduce congestion on the road. Additionally, since dozens of members are sharing one car, their multiple car trips are by necessity staggered throughout the day; as they cannot all drive at one time.

Employing Operational and Technological Improvements. The project does involve several operational and technological improvements that have already addressed in narrative.

Freight Bottlenecks: The project will reduce congestion in the I-90 Corridor in Chicago, site of three freight bottlenecks identified by FHWA in 2005

Project Goals: Reduce VMT and Congestion. Improve Safety.

Project Timeline: Completion in 2008.

TRANSPORTATION, COMMUNITY, AND SYSTEM PRESERVATION PROGRAM GRANT APPLICATION

PART A. PROJECT INFORMATION

Fiscal Year:	2007			
Project Title:	**CTA Blue Line Track Upgrade – Addison to O'Hare Branch**			
Project Location (City/County, State):	Chicago/Cook, Illinois			
GRANTEE CONTACT INFORMATION				
Grantee Contact Name:	David Spacek			
Agency:	Illinois Department of Transportation			
Mailing Address (Street/P.O. Box):	300 W. Adams St., 2nd Floor			
City, State, Zip code:	Chicago, IL 60606			
Phone:	312-793-2154			
Fax:	312-793-1251			
E-Mail:	david.spacek@illinois.gov			
STATE DOT CONTACT INFORMATION				
State Contact Person:	Les Nunes			
Phone:	217-785-2994			
Fax:	217-785-0468			
E-Mail:	leslie.nunes@illinois.gov			
FHWA DIVISION OFFICE CONTACT INFORMATION				
Division Contact Person:	Chris Byars			
Phone:	312-886-1606			
Fax:	312-353-3925			
E-Mail:	chris.byars@fhwa.dot.gov			
CONGRESSIONAL INFORMATION				
Congress Member:	Schakowski, Gutierrez, Emmanuel, Roskam, Davis			
Congressional District No.:	IL9th, IL4th, IL5th, IL6th, IL7th			
TCSP Program Funds:	$80,000,000.00			
Matching Funds/In-kind Services Value:	$20,000,000.00			
Matching Funds/In-kind Services Source:	Illinois Toll Revenue Credits			
Total TCSP-Related Project Costs:	$100,000,000.00			
TO BE COMPLETED BY THE DIVISION OFFICE				
State Administered?		Yes		No
Division Administered?		Yes		No
Date grant application approved by FHWA Division Office				

PART B. PROJECT ABSTRACT

This project involves the rehabilitation of deteriorated track on the Blue Line between the Addison rapid transit station and the O'Hare Terminal to remove slow zones and decrease travel time. Faster travel provides an incentive for individuals to switch to transit, and increased line efficiency provides capacity to accommodate diverted travelers. The project is coordinated with, and supportive of, the Value Pricing, Intelligent Transportation Systems, transit projects and strategies included in the regional Urban Partnership Agreement.

PART C. PROJECT NARRATIVE

This project will remedy existing track deficiencies and will upgrade track to increase train speed and remove slow zones due to deteriorated rail, connectors, and ties. The existing track components from the Addison rail station to the Jefferson Park station have been in service for over thirty years and are in need of replacement. The track components from the Jefferson Park station to O'Hare Terminal have been in service for twenty five years, have deteriorated and require replacement. The project will upgrade track over 12.4 miles of the Blue Line – O'Hare Branch:

- 1.3 miles of two, ballasted, mainline tracks in subway with two center island stations.
- 10.5 miles of two, ballasted, mainline tracks in the Kennedy Expressway median with seven center island stations.
- 0.6 mile of 2-3 direct fixation tracks in tunnel with a terminal station.

This project will inspect and evaluate the sufficiency of the line and is expected to require replacement or rehabilitation of the following elements: special track work, ties, running rail, rail fasteners, traction power contact rail, contact rail chairs and fasteners, contact rail heaters, electrical isolation switches, and related components.

Currently, operating slow zones have been imposed on 50,700 feet of track (33%of the line) due to poor track condition. These restrictions perceptibly slow train travel and discourage potential customers from taking the line. If all sections currently operating at 15, 25, or 35 mph could be brought up to the 55 mph design speed, travelers would save over ten minutes of travel time. This would provide real inducement to travelers in the corridor to switch from automobile to transit.

The operating benefit of removing ten minutes of running time is an improvement in line efficiency. Line capacity increases as more trains are able to complete the circuit from terminal to terminal in the same amount of time. This added capacity will accommodate diverted auto travelers who which to avoid paying congestion tolls.

Safety: The project reduces the potential for accidents to the extent that it supports travelers to convert from driving to transit thereby reducing the number of vehicles on the regions roadways and the potential for crashes.

Innovative Safety Design and Operations The project will encourage greater transit use in the I-90 (Northwest) Corridor to provide an attractive and viable alternative to the congestion pricing to be implemented on the Northwest Tollway and in the Central Area. The increased use of transit will reduce congestion on the Kennedy Expressway, which

also serves this Corridor and parallels the CTA Blue Line. Information processing such as TrainTracker and electronic payment technologies such as the CTA Chicago Card and Chicago Plus automated fare payment systems are also available to further enhance the transit service and encourage mode shifts.

Innovative Construction. All construction done under this project will utilize established maintenance of traffic and safety polices and procedures of the CTA, the City of Chicago, and IDOT.

Addressing High Crash Rates. Chicago is considered one of the urban areas with the highest levels of congestion. The makes transit a more attractive alternative to driving, by providing safe, convenient, and competitive service by reducing the overall impedance by transit compared to a trip by single occupant auto. When combined with the congestion tolls, transit service improvements including express bus and Blue Line track upgrades, park and ride lot improvements, and real time transit information at bus stops and stations proposed for the I-90 (Northwest) Corridor, and with the value pricing, pedestrian, and transit improvements proposed for the Chicago Central Area this project will encourage increased transit use in this key corridor.

The high level and the extent of congestion in the Chicago metropolitan are contributes to higher primary and secondary crash rates and to the increased severity of those crashes. By removing a small share of autos from the traffic stream along this corridor, the improved traffic flow will help reduce these crashes and avoid injuries and fatalities.

Relieving Congestion. The project is will have a significant impact on mode choice behavior in the I-90 (Northwest) Corridor. The elimination of slow zones and the reduction by 10-15 minutes in the transit travel time on the CTA Blue Line will decrease congestion in the Chicago I-90 (Northwest) Corridor. By providing a convenient , attractive, and competitive transit option for trips to/from the Central Area the project also supports congestion relief in the Chicago CBD. The project will encourage people to use transit rather than drive.

Employing Operational and Technological Improvements . The CTA makes extensive use of technology to operate its transit services and to provide safe and convenient service to its customers. Complimentary projects in the **Smart Moves Chicago** Congestion Initiative include the CTA BusTracker and TrainTracker projects using AVL and information technologies, transit passenger information systems to offer real-time information at bus stops and train stations, the multi-modal trip planning system, and parking management and information systems.

Freight Bottlenecks: The project will make the transit alternative in the median of I-90 much faster and more attractive. Therefore, the project will reduce congestion in the I-90 Corridor in Chicago, site of three freight bottlenecks identified by FHWA in 2005

Goals: Reduce VMT and congestion; Improve safety.

Timeline: 2009 completion.

CHICAGO METROPOLITAN URBAN PARTNERSHIP

SUBMITTAL FOR INTELLIGENT TRANSPORTATION SYSTEMS – OPERATIONAL TESTING TO MITIGATE CONGESTION

SUBMITTED BY THE
ILLINOIS DEPARTMENT OF TRANSPORTATION
300 W ADAMS ST 2ND FLOOR
CHICAGO IL 60606

APRIL 30 2007

NOTE: THIS SUBMITTAL SUPPORTS ASSOCIATED URBAN PARTNERSHIP SUBMITTAL AND RELATED GRANT SUBMITTALS

Illinois Department of Transportation

Part I: Background, Problem, Technical Approach

1. Point of Contact

This request for funding is being submitted by the Illinois Department of Transportation. The point of contact for the submittal is:

Mr David Spacek
Bureau Chief
Division of Public and Intermodal Transportation
Illinois Department of Transportation
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Chicago, Illinois 60606
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Email: david.spacek@illinois.gov

2. Description of Key Partner Agencies

The Illinois Department of Transportation is the lead agency of the Chicago Metropolitan Urban Partnership. A description of the Illinois Department of Transportation and highlights of other agencies are provided below.

Illinois Department of Transportation

Illinois Department of Transportation IDOT provides safe, cost-effective transportation for Illinois in ways that enhance quality of life, promote economic prosperity and demonstrate respect for our environment. Five guiding principles represent the hallmark of IDOT's work: safety, integrity, responsiveness, quality and innovation. The department's vision is to be recognized as the premier state department of transportation in the nation.

The department is responsible for nearly 17,000 highway miles, including more than 2,000 miles of Interstate highways and nearly 8,000 bridges. IDOT employs approximately 6,000 fulltime employees. The IDOT highway construction program totals nearly $2 billion annually.

IDOT's support services goals in areas such as aeronautics, rail and public transportation target the efficient delivery of state and federal

transportation grants and other funds to eligible local and regional agencies across Illinois.

IDOT technologies include incident detection, freeway surveillance, ramp metering, dynamic message signs, advanced traffic management systems, the IDOT communications center (ComCenter), that features closed-circuit TV, radio dispatch, and fiber optic connections. IDOT also has an emergency traffic patrol services and shares information with other ITS users through the Gary Chicago Milwaukee (GCM)) Gateway Advanced Traveler Information System.

Illinois State Toll Highway Authority (Illinois Tollway)

The Illinois Tollway consists of 274 miles of limited access highways serving suburban Chicago and Chicago O'Hare International Airport. The entire Illinois Tollway system has been designated as part of the U.S. Interstate Highway System. Annual toll transactions totaled 684 million passenger vehicles and 84 million commercial vehicles in 2005. About 80% of transactions are now by I-Pass or E-ZPass transponder.

The Illinois Tollway is dedicated to providing and promoting a safe and efficient system of toll-supported highways while ensuring the highest possible level of customer service. Recent reform under the current Governor of Illinois led to a $5.3 billion congestion relief effort by the Illinois Tollway, including implementing a progressive program of open-road tolling at highway speeds at all 20 mainline toll plazas, capacity expansion, rebuilding nearly the entire system, and value pricing.

The Tollway is governed by an 11 member Board of Directors that includes the Governor of Illinois and the Secretary of the Illinois Department of Transportation, ex-officio, and nine directors appointed by the Governor with the advice and consent of the Illinois Senate. The Board of Directors has the power to manage and operate the Tollway system, including the power to raise and lower toll rates.

Illinois Tollway technologies include electronic toll collection using radio frequency ID (RFID) and dedicated short range communications technology in a system called I-Pass. The Illinois Tollway is also in the E-ZPass Consortium, allowing transponder interoperability. Additional Illinois Tollway technologies include incident detection, freeway surveillance, queue detection systems, dynamic message signs, the Traffic and Incident Management System (TIMS) advanced traffic management systems. The Illinois Tollway also has emergency traffic patrol vehicles and connections to the GCM Gateway.

City of Chicago

The planning, design, development, construction, operation, and management of transportation projects, functions, and services in the City of Chicago is a cooperative responsibility of several City Departments, all overseen by the Office of the Mayor. The City of Chicago is responsible over 3,775 miles of streets, 100 miles of on-street bikeways, 3,000 signalized intersections including 30 existing interconnect systems with over 500 signals, downtown transit stations 395 bridges and viaducts, including 37 movable bridges.

The Chicago Office of Emergency Management and Communications (OEMC) is responsible for traffic management and operations, signal system operations, communications, and emergency management, and ITS planning an d operations.

The Chicago Department of Transportation (CDOT) is responsible for the planning, design, engineering, and construction of the transportation infrastructure in the City of Chicago.

The Chicago Department of Streets and Sanitation's (DSS) Bureau of Electricity is responsible for the installation and maintenance much of the City's signal system infrastructure.

The Chicago Department of Revenue (DOR) is responsible for the development, implementation, and collection of taxes, fees, charges, and other revenues.

The City has also established a Traffic Management Authority (TMA) within the Office of Emergency Management and Communications. The TMA manages traffic flow and is responsible for the development and operation of the Chicago Traffic Management Center. The TMC is co-located with the Chicago 911 Center, the Operations Center, the City Incident Center, and the Joint Operations Center to facilitate the coordination of emergency management and transportation management functions. Deploying technology to improve flow, the TMA manages traffic signal timing, manages a "red-light camera" highway traffic signal enforcement program, and deploys traffic aides to assist in traffic control (intersection clearance, lane clearance, etc.).

Chicago Transit Authority

The Chicago Transit Authority (CTA) operates the nation's second largest public transportation system. It provides 1.5 million rides on an average weekday; 458 million trips are projected in 2006. CTA is

responsible for bus and rail systems in the City of Chicago and 40 adjoining suburban communities, with 3.8 million people in an area of about 220 square miles.

Chicago is one of the few cities in the world that provides rapid transit service to two major airports. From the downtown area the CTA takes customers to the O'Hare International Airport in about 40 minutes and to Midway Airport in about 30 minutes.

CTA has approximately 2,000 buses that operate on about 150 routes. These buses make over 24,000 trips each day. The bus fleet operates from eight bus garages located throughout the City. An additional facility, South Shops, performs all heavy bus maintenance.

CTA provides rail service on eight routes radiating from the Loop of downtown Chicago. CTA has approximately 1,200 rapid transit cars operating on 289 miles of track, serving 144 stations.

CTA technology includes global positioning systems and mobile data terminals on each bus. CTA is piloting a "bus tracker" for improved bus management and public information. CTA is also piloting transit signal priority along an important arterial highway. Other technology includes a state-of-the-art control center.

Pace Suburban Bus Service

Pace Suburban Bus Service provides bus service Chicago's suburbs. In addition, Pace provides region-wide paratransit and ridesharing services. To improve efficiency and reduce wait times, Pace's state-of-the-art Intelligent Bus System is a major component of its Vision 2020 long-range plan. Improved efficiency and reduced waiting times are key benefits of the IBS. Pace's fleet is wheelchair and bicycle accessible.

Pace employs about 1,500 staff in 11 operating divisions. 240 Pace fixed bus routes provide service to 210 municipalities and 147 rail stations. There are 600 vanpools. 2004 Pace ridership totaled 34.4 million, including 1.5 million vanpool rides.

Pace technology is known as the Pace Intelligent Bus System (IBS). The IBS incorporates voice and data communications, and automatic vehicle location and computer-aided dispatching technologies. Automated vehicle location systems monitor on-time performance and passenger counters will provide accurate and timely ridership data to support strategic planning. Pace also features real-time arrival and

departure predictions for key route locations, available on the Pace Web site. Pace has piloted transit signal priority along a suburban arterial highway.

Regional Transportation Authority (RTA)
The RTA was established in 1974 to oversee local transportation operators in the six-county Chicago metropolitan area. Illinois state law requires the three RTA service boards, CTA, Metra (the suburban rail system) and Pace (the suburban bus system), to recover collectively at least 50% of operating costs from farebox and other system revenues. RTA provides public funding for the agencies' remaining operating expenses.

Chicago Metropolitan Agency for Planning (CMAP)
To integrate planning for transportation and land use, the Chicago Metropolitan Agency for Planning (CMAP) was created in 2005 by merging the staffs of the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC). CMAP serves the counties of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will. CMAP combined the previously separate transportation and land-use planning agencies for northeastern Illinois into a single entity designed to protect natural resources and minimize traffic congestion. CMAP provides staff for the Policy Committee of the Chicago Area Transportation Study, the metropolitan planning organization (MPO) for northeastern Illinois. Among other tasks, CATS and CMAP have completed regional ITS deployment plans and a regional ITS architecture.

3. Congressional Representation

The Urban Partnership will provide travel technology improvements to all or part of the following congressional districts:

- 1st Congressional District, including parts of Chicago and south and southwest suburban Cook County. This district is represented by Bobby Rush.
- 2nd Congressional District, including parts of Chicago and south suburban Cook County. This district is represented by Jesse Jackson, Jr.
- 3rd Congressional District, including parts of Chicago and west and southwest suburban Cook County. This district is represented by Dan Lipinski.

- 4th Congressional District, including parts of Chicago and west suburban Cook County. This district is represented by Luis Gutierrez.
- 5th Congressional District, including parts of Chicago and west suburban Cook County. This district is represented by Rahm Emanuel.
- 6th Congressional District, including parts of west and northwest suburban DuPage and Cook Counties. In addition the district includes Chicago O'Hare International Airport within the City of Chicago. This district is represented by Peter Roskam.
- 7th Congressional District, including parts of Chicago, including the Chicago Central Business District, and parts of west suburban Cook County. This district is represented by Danny K. Davis.
- 8th Congressional District, including parts of northwest suburban Cook, McHenry, and Lake Counties. This district is represented by Melissa Bean.
- 9th Congressional District, including parts of Chicago and north and northwest suburban Cook County. This district is represented by Jan Schakowsky.
- 10th Congressional District, including parts of north and northwest suburban Cook and Lake Counties. This district is represented by Mark Kirk.
- The 11th Congressional District, including southwest suburban Grundy and parts of Will Counties. This district is represented by Jerry Weller.
- The 13th Congressional District, including parts of southwest Suburban Cook, DuPage and Will Counties. This district is represented by Judy Biggert
- The 14th Congressional District, including parts of west and southwest suburban Kane and Kendall Counties. This district is represented by Dennis Hastert.

4. Identification of Lead Agency and Partner Roles

a. Lead Agency Identification

The Illinois Department of Transportation is the lead agency for the Partnership.

b. Public Agency Roles

Illinois Department of Transportation (IDOT). IDOT has jurisdiction over many of the facilities to be improved and will oversee the planning, design, construction, and operation of improvements to

these facilities. IDOT will also work cooperatively to facilitate transit improvements and related technologies on its facilities as part of the Partnership's efforts to increase mobility and reduce congestion.

In view of its lead agency role, IDOT will be directly involved in all aspects of Partnership project.

Illinois State Toll Highway Authority (Illinois Tollway).
The Illinois Tollway will be a subgrantee for technology improvements on and approaching the Northwest Tollway. The Illinois Tollway will pursue improvements to facilitate congestion pricing along the Northwest Tollway. The Illinois Tollway will work cooperatively to facilitate transit improvements and associated technologies on the Northwest Tollway.

City of Chicago
The City of Chicago will be a sub-grantee for technology improvements throughout the City, including improvements to facilitate congestion pricing on the Central Area corridor. The City will also coordinate value pricing activities for the Chicago Skyway, as applicable. CDOT and OEMC will also work cooperatively to facilitate transit improvements and related technologies on its facilities as part of the Partnership's efforts to increase mobility and reduce congestion.

The City of Chicago has jurisdiction over many of the arterial streets to be improved with new technology, and will oversee the planning, design, construction, and operation of improvements to these facilities.

Chicago Transit Authority (CTA), Pace Suburban Bus Service, and Regional Transit Authority
CTA, Pace, and RTA will be sub-grantees for technology improvements for urban transit systems. These agencies will oversee the planning, design, implementation, and operation of these technology improvements.

IDOT, CDOT, the Illinois Tollway and the RTA all maintain travel data hubs that will be focal points of these ITS efforts. In addition, several counties have significant arterial highway systems and are developing or have developed traffic management centers. These traffic management centers will be tied in to the regional ITS system through this grant.

5. Management and Staffing

This early in the planning phase, details regarding staffing have not been finalized. It is anticipated that much of the detailed staffing to prepare plans and implement technological improvements would be consultant activities (while consultants are now retained by Partnership agencies, Partnership activities are not now under contract). Preliminary identification of key personnel is below. The resumes of several of these are attached as Appendix 1.

IDOT

IDOT, as lead agency, would implement primary staff coordinating and contracting roles.

- Primary management: David Spacek, Bureau Chief, Division of Public and Intermodal Transportation.

IDOT will also implement or facilitate several corridor improvements, such as new fiber datapipes and accompanying surveillance and closed circuit TV. Supported projects include smart corridors. Supporting IDOT management:

- Charles Sikaras, ITS Program Manager, Office of Planning and Programming
- Jeff Galas, Traffic Systems Center Manager, District 1 Operations
- Martin Anderson, Bureau Chief of Electricity, District 1 Operations

Chicago Metropolitan Agency for Planning

Interagency coordination would be facilitated the transportation operations activities of the Chicago Metropolitan Agency for Planning. Project managers would be:

- Tom Murtha, Senior Planner for Strategic Initiatives
- Claire Bozic, Senior Analyst for Programming

Illinois State Toll Highway Authority (Illinois Tollway)

The Illinois Tollway would implement ITS projects related to the proposed congestion pricing projects and would facilitate express bus ITS projects.

- Rocco Zucchero, Director of Planning
- John Benda, Manager of Maintenance and Traffic

City of Chicago

The City of Chicago would implement a comprehensive program of ITS projects in the Chicago Central Area to reduce congestion and implement congestion pricing, parking management, and freight

operations improvements. The City would also coordinate Chicago Skyway Toll Bridge congestion pricing in cooperation with the Skyway Concession.

- David Zavattero, Deputy Director, Office of Emergency Management and Communications, (OEMC)
- Luannn Hamilton, Deputy Commissioner, Chicago Department of Transportation (CDOT)

Transit Agencies

The transit agencies will implement vehicle tracking technology and public information technologies and will integrate traffic information with transit priority to provide better service. The agencies will also implement new smart corridor transit service, and will implement a new shoulder-riding service using vehicle lane-keeping technology, combined with improved surveillance and enforcement to prevent encroachment.

- Duana Love, Manager of Oversight and Technology Development, Regional Transportation Authority
- John Flynn, Vice President for Technology, Chicago Transit Authority
- David Tomzik, Supervisor of Long Range Planning, Pace Suburban Bus Service
- Tunde Balvanyos, BRT Coordinator, Pace Suburban Bus Service
- Taqhi Mohammed, Transportation Engineer, Pace Suburban Bus Service

County Governments:

Several counties operate or are developing increasingly important arterial surveillance programs that will be integrated into the regional data network.

- Ruth Myers, DuPage County
- Patricia Killinger, Will County
- Anthony Khawaja, Lake County
- Tom Szabo, Kane County

6. ITS congestion mitigation technologies to be operationally tested

a. TRANSIT: Chicago Transit Authority: Bus Tracker Project

The Chicago Transit Authority will be testing “Bus Tracker” AVL technology and a complex set of associated management and information technologies:

The Bus Tracker project will provide CTA with real-time location for buses to inform customers about anticipated arrivals and inform management of operating performance so that corrective action can be taken if needed. It will also identify route deviations indicating incidents, street blockage or equipment defects. Riders will be able to check estimated arrival times by using the CTA Bus Tracker tool at www.ctabustracker.com, or by using their compatible mobile phone or personal digital assistant. CTA will be providing the same real-time information to the Control Center and street supervision for the improvement of service. Upon full implementation, this project will provide CTA riders with information that significantly improves their transportation experience, their accessibility to public transportation, and their awareness of the reliability of the public transportation services they use.

CTA is currently testing bus vehicle tracking on a single route as a demonstration. Based on the positive response, planning for systemwide expansion is underway, utilizing existing on-board intelligence. The following features are envisioned as part of full system implementation:

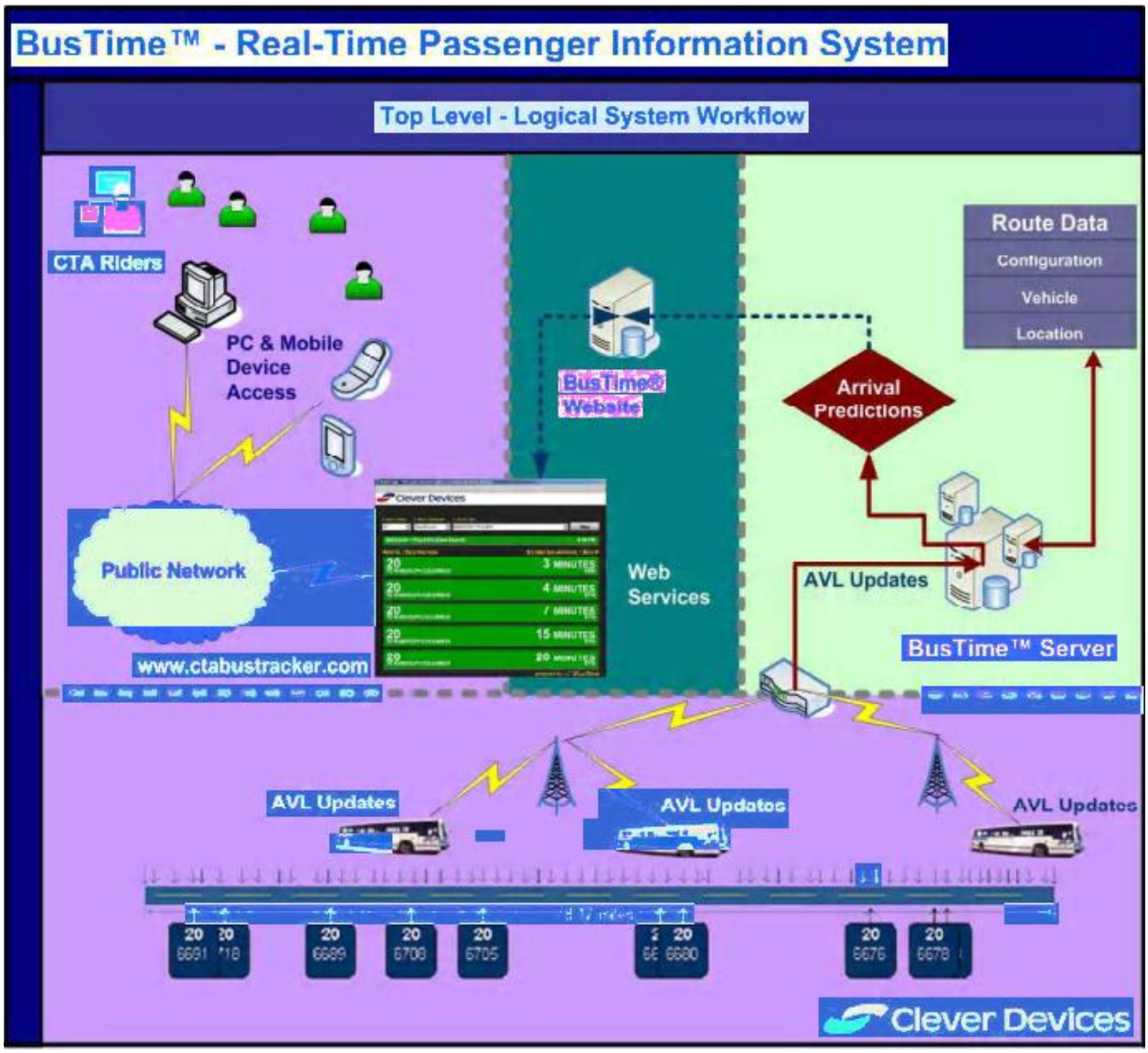
Bus Tracker Systemwide Location and Schedule Adherence Software
Utilizing the on-board GPS module that determines vehicle location for in-vehicle announcements, real-time vehicle location data is transmitted to a central location. Currently available for the #20 Madison route, prediction algorithms are utilized to provide arrival estimates for all stops. These estimates, along with real-time bus locations on a map are displayed to the public website, ctabustracker.com, which is also available to web-enabled devices.

Bus Tracker Communication Hardware
For systemwide expansion to all CTA bus routes, each bus needs to have installed on it a cellular modem to send real-time bus identification and location information. To fully develop an on-board communications network, each bus will also be equipped with a mobile access router to allow for future real-time applications such as security video.

Bus Tracker Customer Travel Information
Real-time travel information can be communicated to customers in several ways. One option is to provide information via the Internet to laptop or web-enabled devices, as is currently provided via ctabustracker.com. Text messaging to cell phones is an option. Another alternative is to create a dial-in telephone system (interactive

voice response system) providing specific information for each bus boarding location. Finally, anticipated arrival information can be provided to specific bus stop display signs or monitors via cellular modem.

Bus Tracker Operations Management
This project includes a software application that utilizes the wealth of real time operating data that creates a computer aided dispatch system for operations management. This CAD-AVL application would monitor and analyze route performance, manage incidents and service reliability, and assist operations personnel in implementing service restoration strategies. The application should also provide management reports on route performance, incidents and productivity. This application would be available to Control Center personnel and field supervisors.



b. TRANSIT: Parking Management

Suburban Transit Parking Guidance

The Parking Management Guidance Systems (PMGS) is a component of the Advanced Traveler Information System that includes Variable Message Sign (VMS) displays at various locations leading to transit parking facilities that will provide real time parking availability information. All parking information and related data shall be gathered, stored and displayed to motorists electronically. The PMGS will serve as a means to: 1) guide and route motorists to transit station parking facilities through a demand-responsive state-of-the-art communications system, and 2) manage existing parking stock by directing motorists to areas with ample parking stall vacancies, thus reducing internal lot dwell and circulation times and thereby providing

for improved fill rate efficiencies. A full-scale PMGS will ultimately connect to a future Illinois Transit Hub (being developed by the RTA) and will be integrated with the Gary-Chicago-Milwaukee (GCM) Multi-Modal Traveler Information System.

RTA is already conducting a pilot project to deploy VMS and parking capacity monitoring tools at Metra's Rock Island District corridor. Overall system components include central control software and hardware, local controllers, parking lot sensors, and site specific VMS. The system expectations and performance requirements developed during the feasibility study conducted by the Regional Transportation Authority (RTA) was used to develop design specifications for the pilot PMGS.

c. TRANSIT: Transit Signal Priority

Transit Signal Priority (TSP) is an operational strategy that facilitates the movement of in-service transit vehicles or buses, through traffic-signal controlled intersections. The premise of TSP is that if a bus arrives on green, extend a few seconds more if needed, to make sure that the bus gets through the intersection. If bus arrives on red, shorten other phases to return earlier to green for the bus.

Objectives of TSP include improved schedule adherence and improved transit travel time efficiency while minimizing impacts to normal traffic operations. Expected benefits of TSP vary depending on the application, but include improved schedule adherence and reliability and reduced travel time for buses, leading to increased transit quality of service. Experiences from prior deployments generally indicate bus travel time savings on the order of 15% (depending on the exiting signal delay) with very minor impacts on the overall intersection operations.

TSP also includes optimization of signal timing plans and interconnects. It is the process of designing or modifying a system to make it as effective as possible for a given criteria within a given set of constraints. In the context of traffic signals, optimization can be conducted on isolated signals, traffic signal corridors or traffic signal networks. Signal timing optimization involves the selection and modification of several design elements including cycle length, number of phases, phase sequence, phase duration and offsets to achieve one or more objectives such as:

- Minimize the number of stops.
- Minimize the queue length.

- Minimize the delay of vehicles.
- Maximize throughput.

TSP is proposed along the following corridors:

- Cermak Road
- Boughton/Plainfield/Ogden/Cicero
- Higgins
- Golf Road
- Milwaukee Avenue
- River Road

Intermittent Bus Lanes

As part of TSP implementation, Pace will evaluate "intermittent bus lanes" (IBL) and them implement as appropriate." IBL is an innovative way to achieve bus priority on congested arterial streets where bus operation frequency does not justify permanent bus-only lanes, but high quality transit service would provide an alternative travel mode. The concept of the Intermittent Bus Lane (IBL) is to turn a regular traffic lane into a bus-only lane only at those times when there is a bus present in the lane to take advantage of it. When there is no bus present the lane is turned back to general traffic lane. IBL increases bus operation reliability and travel speed with minimum impact to general traffic. It is a supportive technology and operation concept that increases transit's impact in the regional congestion management program.

IBL is an innovative solution to increase bus speed and improve reliability under exactly those congested conditions that characterize this region's arterials. IBL can provide bus service speed and reliability when intersection signal operations or queue bypass alone might not be sufficient. By increasing transit travel speed and improving reliability, we improve transit's congestion management effect, while allowing other uses when not used by transit.

The first demonstration has been completed in Lisbon. The second demonstration is currently under way. Under the UPA, Pace proposes to conduct a demonstration of IBL in our region, if preliminary evaluations deem a demonstration appropriate.

<u>d. TRANSIT: Queue Bypass for High Occupancy Vehicles</u>

Ramp metering uses traffic signals and road sensors to manage the rate at which vehicles are allowed to merge with motorway traffic. HOV bypass lanes allow buses, vanpools, and vehicles with several occupants to enter the traffic stream without waiting. A bypass lane is

usually marked with a white diamond, designated to buses and other High Occupancy Vehicles (HOV). HOV queue bypass may bring time savings of *one to four* minutes for buses and rideshare vehicles. Reliability of bus travel times or schedule reliability is significantly enhanced due to bypass lanes at ramp meters. HOV queue bypass projects typically involve changes to the ramp meter algorithm.

e. TRANSIT: I-55 BRT Lane Demonstration Project

The I-55 Bus/Truck lane study would look into using the inside shoulder riding by fleet vehicles on the Stevenson Expressway between Illinois 53 and Damen Avenue. Congestion is severe on this facility, freight demand is high, and transit times are not competitive. By using wide inside shoulders, transit travel times will be significantly decreased as buses bypass congestion delay.

Phase 1: Feasibility Study. First, we would perform a thorough feasibility study to specifically assess the physical parameters of the route of the proposed demonstration; incident management, pavement characteristics; signage and pavement marking requirements; lane separation options; enforcement operations and ingress/egress. These issues need to be evaluated prior to lane operation. At this time, no funds are requested beyond Phase 1.

Phase 2: If judged feasible, Phase 2 of this project would be a BRT express service demonstration between Illinois 53 and Damen Avenue in the Chicago Central Area employing lane-keeping driver assist technology. The BRT would operate on the inside shoulder of I-55 and provide bi-directional service to the CBD, the CTA Orange and Pink Lines, suburban park-n-rides, and employment centers. We would implement lane-keeping driver-assist technology (and corresponding operator training) to allow for use of potentially narrow shoulders. Lane-keeping technology is commercially available.

Phase 3: Phase 3 would introduce longitudinal driver-assist technology to establish the ability to operate buses safely with shorter headways. We would also field-test this driver-assist technology in adverse operating conditions.

Furthermore, Pace believes that potential transit demand on this corridor exceeds 20,000 riders per day. Lastly, utilizing advanced driver-assist technology on such a dedicated lane might produce greater total throughput, improved throughput stability and increased safety to our urban highways.

If this demonstration is successful we would explore expanding this operating model to other routes.

f. TECHNOLOGY: Freeway Surveillance

This project provides for expansion of congestion monitoring, incident detection, and traveler information along I-55 in the rapidly growing southwest corridor. IDOT will provide real-time information to the public through media outlets to inform road users of current conditions, expected travel times, and congested areas. The anticipated 511 service depend on this type of data for providing traffic information directly to the motorist. Informed motorists will often adjust their trips in response to expected delay. The same system is used for incident detection and improved response time in situations often involving injury or major delay. This expansion would provide this vital and expected service to an area where recent urban expansion has multiplied traffic, and is a major entry point for interstate travelers and commercial vehicle operations.

The new surveillance is expected to use the latest communications technology. The surveillance will support expanded transit service in the corridor. In addition, the deployment of an expanded wide area traffic monitoring system is in anticipation of a continued expansion of major commercial vehicle operations.

This project will extend from Naperville Rd. to Lorenzo Rd on I-55 in the Southwest Corridor.

g: TECHNOLOGY: Closed Circuit Television (CCTV) Expansion

This project extends IDOT's CCTV monitoring system to improve coverage southwest along the I-55 corridor. The corridor has seen economic growth and development, and has become an extension of the Chicago expressway system, with considerable commercial and commuter traffic. The CCTV cameras are intended to be installed at high mounting heights, often from IDOT high mast lighting poles, retrofitted in an innovative way to take advantage of these tall structures for extended views with fewer cameras. The cameras themselves will utilize pan, tilt, and long-range zoom features and remote control, coupled with electronic image stabilization features to make long-range images usable. The video distribution will be built on the IP multicast digital platform being established in IDOT District 1 under the Dan Ryan Reconstruction effort and the distribution network of fiber and microwave wireless communications used to provide wide area distribution of high quality images.

The project will include cameras, mounting provisions, subdistribution to image collection nodes, digital encoding, supplemental decoding as needed, and distribution modifications as required to add the additional units. The installation will depend upon a separately constructed fiber backbone extension or microwave wireless communications to carry the high-bandwidth video data to points of connection to the established system.

The extended camera coverage will allow IDOT control room monitoring of traffic flow and roadway conditions, will facilitate rapid assessment of incidents and other roadway problems, will facilitate dissemination of visual traffic information to the news media and the public via the IDOT GCM web site and other means, and will improve the removal of congestion problems and speed-up the restoration of traffic flow after an incident.

This project will extend along I-55 from Willow Springs Rd. to US 6.

h. Southwest Fiber Backbone

This project is to provide a fiber optic cable along I-55 from Willow Springs Rd. to U.S. 6. This project will serve long-term traffic management needs in the southwest corridor. The project is expected to be coordinated with planned construction in I-55 expected in 2008.

i. Gateway and City-County TMC Integration

The Gateway traveler information system is the primary data collection, processing, and distribution hub by collecting real-time traffic information from IDOT, the Illinois Tollway and the Skyway Concession Company and distributing this information to various agencies and the general public via its award winning website, www.gcmtravel.com. The partnership proposes the additional integration of the Gateway with existing and planned traffic management centers in Cook, DuPage, Kane, Lake and Will counties and also enhanced interfaces/integration with the planned Chicago TMC and the Illinois Transit Hub. This will improve area congestion through automated dissemination of traffic information such as sensor data, camera video, incident reports, and planned construction activities. Real time information on the condition and performance of all transportation facilities facilitates coordination of management and operations, and is essential to expanding technological deployment to mitigate congestion. This project will accelerate the planned integration of regional management, operation,

and information centers envisioned in the Northeastern Illinois Regional ITS Architecture and the Strategic Deployment Plan. Initial implementation will utilize leased telecommunications services which will be replaced by required extensions of the regional fiber optic backbone network or Data-Pipe included in the Regional Architecture and Plan.

i. **Smart Moves Chicago** Congestion Initiative

The City of Chicago is developing a program of congestion relief called **Smart Moves Chicago. Smart Moves Chicago** is being developed in conjunction with the Urban Partnership, and will be a mechanism for the City to focus its congestion relief efforts and a banner under which to reach out to the public and stakeholders.

Mobility is essential to both the quality of life and the economic vitality of the City of Chicago and our metropolitan region. Increased congestion in our metropolitan areas causes increased pollution, delay, and frustration. The Urban Partnership Congestion Initiative announced by USDOT in May 2006 represent a challenge and an opportunity to the City and the region to develop and pursue an aggressive approach to insure that our citizens and businesses will prosper from a transportation system that has overcome the stagnating impact of increasing congestion, and to enhance our environment.

Smart Moves Chicago uses all four T's as the tools to combat congestion: Tolling, Telecommuting, Transit, and Technology. Few regions in the have the levels of traffic congestion typical of Northeastern Illinois. Fewer regions have the tolling, transit, and technology infrastructure to implement the comprehensive solutions demanded. It is unlikely that many regions have the experience and the will to tackle the congestion crisis with the aggressive program required to produce rapid results for the greatest number of people.

The City's and region's Congestion Initiative is targeted at corridors, areas, and services of greatest need. Further it includes projects and strategies to improve the performance in focused locations and functional areas, and to influence the travel behaviors that contribute to congestion. **Smart Moves Chicago** recognizes the need to develop and put a program of mutually supportive projects and strategies in place. Table XXXX summarizes the projects and strategies included in the City's **Smart Moves Chicago** Congestion Initiative.

Smart Moves Chicago
Chicago Congestion Initiative
Table 1: New Initiatives

Project/Strategy	Partners	Summary Description
TOLLING		
Variable Parking Pricing	Parking owners/operators	Implement Value Pricing Program for off-street parking in Central Area based on expressway/arterial congestion, peak period, and/or parking occupancy using City Parking Tax
Commercial Vehicle Loading Fee Structures (pay by hours of use)	Building owners/managers	Implement variable fees for loading operations in Central Area based on congestion, peak period, location, duration
Chicago Skyway Congestion Pricing	Skyway Concessions, LLC	Implement Congestion pricing on 7.8 mile Chicago Skyway linking Indiana and Illinois as portion of I-90 Corridor
Chicago Congestion Pricing Study	MPC, Tollway, IDOT	Copnduct analysis of feasibility, impacts, and implementation potential of cordon zone and other value pricing strategies. Include outreach to stakeholders fro input, education.
TELECOMMUTING		
Flextime Business Partnerships	CCC, GNMAA, LEED Council	Implement program to encourage flexible hours though subsidies and outreach to business partners and their employees
Telecommuting for Disabled and Others to Support Home-based Work	CCC/MOPD	Implement program to support telecommute options for disabled workers and others by subsidizing adaptive equipment and Internet services

	TRANSIT		
	Expanded Bus Tracker		Extend Bus Tracker real-time bus information system to additional routes and system-wide based on the Madison #20 pilot
	Train Tracker		Implement real-time train tracking information system to compliment Bus Tracker and provide next train arrival information
	Automated Customer Travel Information - Software/Hardware		Implement system to provide real-time next bus information to customers using Internet, mobile devices. Extend real-time next bus information to on-street delivery at Decaux shelters, etc.
	Pedestrian and Bicycle Enhancements		Accelerate implementation of a range of pedestrian and bicycle enhancements to encourage use of alternative modes and improve safety including traffic calming, streetscape, pedestrian countdown signals, bicycle facilities
	Enhanced Transit Services		Accelerate implementation of enhanced transit services in congested corridors as driving alternative to compliment value pricing program
	TECHNOLOGY		
	Signal Timing Optimization Program, Signal Interconnect and Smart Corridors Deployment		Implement program to optimize signal timing to improve traffic flow on major arterials and to deploy/expand centralized and interconnected signal operations and Smart Corridors
	Expanded Transit Signal Priority (TSP) Program		Implement Transit Signal Priority to improve bus operations and customer service in congested corridors based on Western Ave. X49 TSP pilot
	Expanded Traveler Information System		Expand coverage and availability of multi-modal travel information to include real-time performance measures for Strategic Regional Arterials
	Targeted Incident Management Program		Expand traffic incident management to major arterial corridors including parking management, enforcement, traffic control aides, and towing services
	Traffic Management Center		Accelerate deployment of Chicago TMC to coordinate emergency, incident and traffic management functions including centralized signal operations from TMC

Intelligent Transportation System (ITS) technology is a core component to implement the pricing, transit, and operations improvements included in the regional congestion Initiative. The sections below describe the projects for which funding is sought from the Value Pricing Program, the ITS-Operational Tests to Mitigate Congestion program, the FTA Section 5309 Bus and Bus Related Facilities Discretionary (Flexible Bus) program, and the Transportation, Community, and System Preservation program to implement the **Smart Moves Chicago** Congestion Initiative.

The Value Pricing components are focused on addressing the significant congestion issues in the Chicago Central Business District. Four key strategies are proposed to address vehicular and freight related congestion. Three of these strategies would be implemented in the near term pending the approval of the required changes in the authorizing City Ordinances and the Chicago Skyway concession agreement terms. The final strategy lays the groundwork for a model program of cordon pricing that would be based on the methods and lessons learned form the successful programs implemented in London, Stockholm, Singapore, and elsewhere. Taken together these strategies represent an aggressive commitment by the City of Chicago to eliminate congestion in the economic focus of the region and to support the comprehensive regional Urban Partnership program being led by our Metropolitan Planning Organization (MPO), the Chicago Metropolitan Agency for Planning (CMAP).

The proposed ITS technologies include projects to implement pricing strategies, traffic and transit management and operations improvements, and traveler information improvements. Each builds on existing ITS infrastructure and has been designed to be consistent with the regions ITS Strategic Deployment Plan and the Northeastern Illinois ITS Regional Architecture. The City of Chicago projects are carefully designed to support ITS projects are proposed by each partner agency including: the Illinois Department of Transportation, the Illinois Tollway, the Regional Transportation Authority (RTA), the Chicago Transit Authority (CTA), and Pace (the suburban bus operator).

Flexible work hours and expanded telecommuting opportunities will also be developed in partnership with the business community and major employers to help shift travel from the peak congested period or to substitute information technology for trips.

The transit components include expanded and upgraded rail and bus services in key corridors and the Central Area; enhanced real-time

traveler information though the Internet, on mobile devices, and at stations and bus stops; pedestrian and bicycle facilities and amenities that enhance safety and encourage use of these alternatives; and expanded car-sharing opportunities that will provide viable options to encourage travelers to use transit rather than drive.

The following sections describe the projects in the **Smart Moves Chicago** program are proposed for ITS-OTMC funding.

i. Signal Interconnects and Smart Corridors

There are over 26,000 intersections in the City of Chicago. Nearly 3,000 of these are controlled by signals. Chicago was amongst the first City's to coordinate signal operations through time of day synchronization of the largely grid-pattern arterial and street network. More recently Chicago has implemented an aggressive program to deploy and operate closed-loop signal interconnect systems and centralized signal systems. Currently over 30 signal systems are deployed to operate over 500 signals. These range from the 83 signals in the Central Area (the Chicago Loop) which are operated under one of the dozen centralized Management Information System for Traffic (MIST) systems to the several corridors operated as closed loop systems.

The Chicago TMA is part of the OEMC and has initiated a major project to build and enhance its Traffic Management Center. The TMC is co-located with the Chicago 911 Center, the Operations Center, the City Incident Center, and the Joint Operations Center to better coordinate public safety, emergency management, and traffic management. MIST systems are controlled from the initial phase of the TMC within the Operations Center. The Operations Center and City Incident Center includes access to over 2,000 Operation Virtual Shield (OVS) and other video cameras, and dispatches tow and maintenance resources, manages the City permit and construction closures, oversees the nearly 1,000 full and part-time Traffic Control Aides strategically located in the Central Area and at other major intersections and corridors, among other functions. The co-located 911 Center receives emergency calls and dispatches police, fire, and emergency services and resources. OEMC operates and maintains the fiber optic backbone and other communications networks to support these functions.

ITS-OTMC funding is requested to deploy an additional seven signal interconnect systems along major arterials that will support the I-90 and Southwest Corridors. These signal interconnect systems will

provide for centralized operation of another 195 signals and 43 miles of arterials from the TMC.

Additional improvements to further enhance traffic services along these arterials are proposed to create a network of "Smart Corridors". The Smart Corridor concept has been piloted on Cicero Avenue, which is the principal access to Midway Airport, and on Ashland Avenue, which has served as the primary alternate to the Dan Ryan Expressway during its three-year reconstruction project. Smart Corridors add more detection, video surveillance, transit signal priority, traveler information, and incident management technology to get the most effective use of the corridor possible with the least disruption or environmental impact.

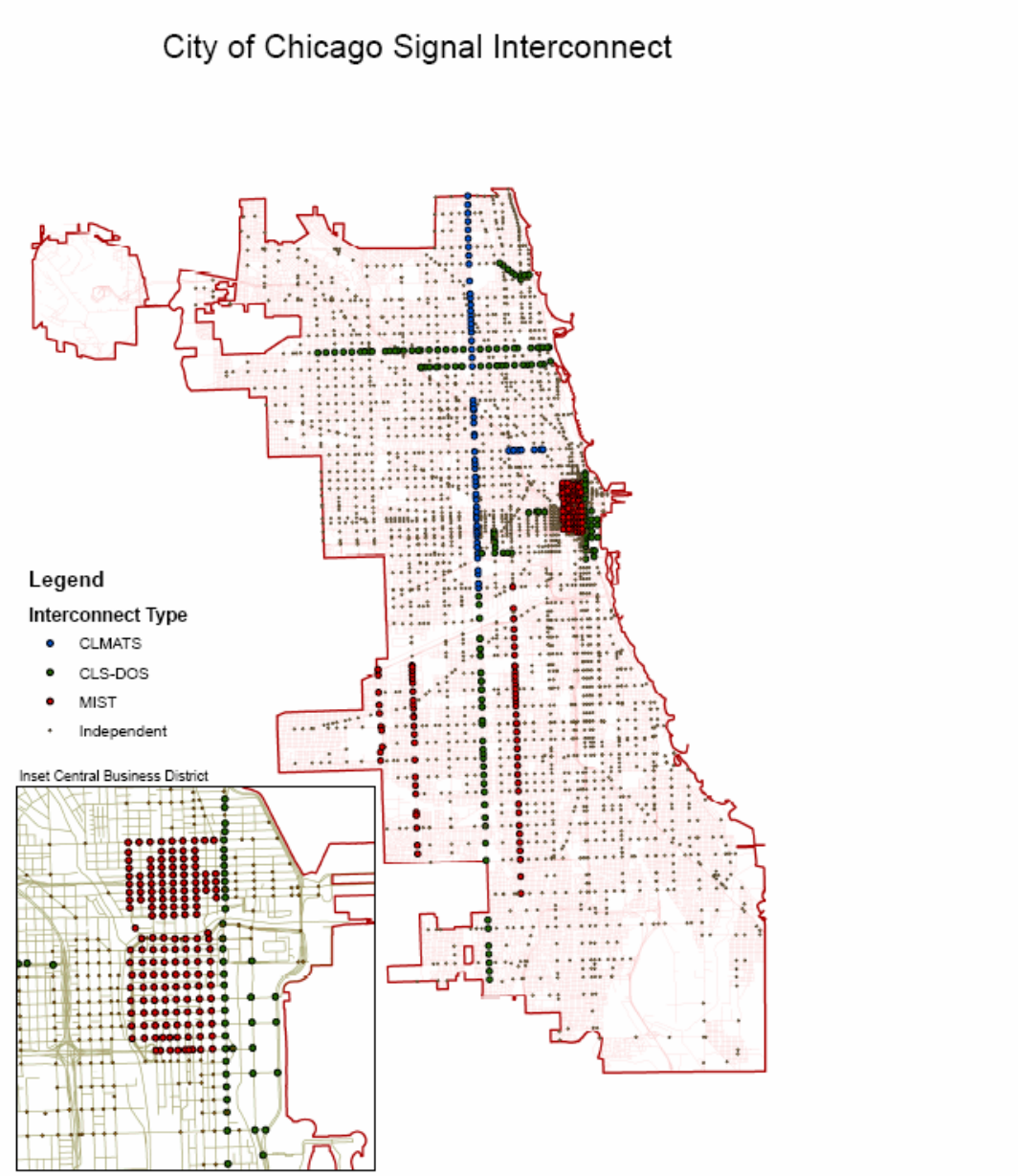
As proposed the corridor signal interconnect systems would be supplemented by enhanced video detection, more video surveillance to be integrated with Operation Virtual Shield control systems, strategically placed Variable Message Signs which would be supported by the parallel Arterial Performance Monitoring System (APMS) described below, a targeted incident management program, and extensions of the Western Avenue pilot Transit Signal Priority to support improved transit services in these corridors.

The arterial corridors proposed for signal interconnects, Smart Corridor technologies, and enhanced operational strategies are shown graphically in Figure 1. The Appendix 2 also calculates the estimated costs associated with these ITS-OTMC projects

ii. Signal Timing Optimization Program

With one of the largest signal systems in the U.S., the City of Chicago faces the disproportionate task of maintaining a regular and effective signal timing optimization program. There are two aspects of this that are particularly relevant for the **Smart Moves Chicago** Congestion Initiative and the major arterials that would best support the overall City and regional program.

First, is the time between the review, analysis, and confirmation or modifications required to the signal timing plans to reflect changed traffic conditions. To be effective this analysis and timing optimization should be performed on a regular basis. In the case of the Congestion Initiative this is even more important as the other elements of the program are intended, indeed will, cause traffic changes along these corridors.



Second, there is a critical need to develop, install, test, and monitor signal timing plans to meet the special needs of planned and unplanned events, incidents, and emergencies that will occur on the Smart Corridors. These "atypical" conditions can account for half of the delay or congestion in the corridor. Yet, often, timing plans are content to address morning and afternoon peak, possibly mid-day, sometimes weekends, and then rest of the day. The full benefit of the technology to be deployed in these Smart Corridors can only be realized if they are operated efficiently, with appropriate feedback loops, and with analysis and timing to accommodate the unusual (but reasonably expected) set of scenarios that will undoubtedly occur.

The proposed signal timing optimization program is intended to take these needs explicitly into account and to develop, install, test, monitor, and revise timing plans that optimize the use of the technologies and systems during the traditionally considered peak and other periods, but also during the special conditions described above. The Smart Corridors will be managed from the TMC as will the other corridors to the extent possible. Where not possible immediately, these corridors will be managed from the remote or mobile workstations operated by the City.

The 586 signals proposed for this aggressive treatment are summarized in Appendix 3, which also provides an estimate of the cost. Funding to manage and operate these systems is proposed as part of the ITS-OTMC program.

iii. Targeted Incident and Traffic Management

The Chicago Traffic Management Authority (TMA) has gained considerable experience and expertise in operating an effective incident management and traffic management program as a result of the prototype systems and services put in place to mitigate the congestion impacts of the major reconstruction of the Dan Ryan Expressway. Ashland Avenue and Stony Island serve as models for the targeted incident and traffic management programs proposed in conjunction with the **Smart Moves Chicago** program.

The principal components of the targeted incident and traffic management program are the strategic placement if Traffic Control Aides (TCAs) and the staged deployment of TMA tow vehicles and services along the seven identified “Smart Corridors”.

The TCAs are trained to assist in the operations of critical intersections. By placing these traffic management resources at strategic locations along the corridor during the peak morning and afternoon weekday traffic hours, the flow of traffic and the safety of the intersections are enhanced. This strategy has a proven effectiveness and up to 60 additional TCAs will be deployed along the major arterials corridors expected to be impacted by the Congestion Initiative. Additional TMS tow trucks will be procured and operated in the Smart Corridors to supplement the current fleet of 60 City tow trucks and the contracted services already available. These added resources when combined with the enhanced surveillance and other Smart Corridor technologies noted above will

ensure that incidents and other traffic obstructions are identified and removed as quickly as possible to return the limited capacity to productive use. Two additional tow trucks would be allocated to each of the seven corridors.

The $1.4 million capital cost for the tow trucks and the $2.04 million annual cost for the added TCA's for three years are requested under the ITS-OTMC program.

iv. Pedestrian Countdown Signals

The purpose of this project is to create a pedestrian friendly environment in the Central Area. Currently 13 of the 83 intersections are equipped with pedestrian countdown signals. These devices have proven very popular with commuters and pedestrians on the busy downtown streets. Pedestrian countdown signals improve the safety of the intersections and give walkers information that they find very helpful as they navigate shared spaces with autos, trucks, bicycles, and each other.

Nearly 60% of the commuters to the Chicago Loop get there via transit. Once they depart the train or bus they get to their destinations by foot. Often this involves several intersections where they compete for space and time with cars and drivers. The countdown signals help define the appropriate behaviors for both the pedestrian and the drivers and do so in a way that makes it safer to walk through an intersection and at the same time helps to facilitate the flow of vehicular traffic.

This project would equip the remaining 70 intersections in the Chicago Loop with pedestrian countdown signals. Doing so will support the complementary pricing and transit projects and strategies by encouraging even greater use of transit to access the Central Area. The combined effects of these projects and strategies add to more than the sum of their parts and makes **Smart Moves Chicago** Congestion Initiative stronger.

The cost to equip the 70 additional intersections with this technology is $700,000. This capital cost and an estimated $70,000 per year to maintain and operate these improved pedestrian signals is requested under the ITS-OTMC program.

v. Expanded Traveler Information

Real-time information on the condition and performance of the transportation system is critical for effective management and operation of the system. Projects already undertaken by the City of Chicago and the region have recognized the utility of this information and have been deployed to collect, validate, fuse, and distribute this information. The Gateway System operated by IDOT is the regional traveler information data collection and sharing hub. Gateway collects and distributes information from the IDOT Traffic Systems Center, the Tollway Traffic and Incident Management Center, the Lake County Passage TMC, the Illinois Transit Hub, the Northwest Central Dispatch System, and other Traffic Management Centers.

Real-time information on the condition and performance of the transportation system is also important to travelers and the public. Several projects included in the **Smart Moves Chicago** Congestion Initiative are designed to enhance the information available to travelers so that they can make effective travel decisions. The accelerated build-out of the Chicago Traffic Management Center and its integration with the City operated systems including 911 Computer Aided Dispatch, Towing , Permitting, Construction Management, Signal Operations, etc. as well as with the other regional systems through the Gateway and the regional architecture is a key enabler get this information to the traveler.

The **Smart Move Chicago** Congestion Initiative will use the full range of technologies to distribute quality information to travelers in a timely manner whether the need be for pre-trip planning or en-route decisions. The Internet, media, e-mail alerts, mobile devices, telephone or text messaging, permanent and portable Variable Message Signs, Highway Advisory Radio, satellite radio, in-vehicle devices such as navigation, or ultimately Vehicle Infrastructure Integration devices and services will be used to keep the Chicago traveler the best informed about traffic, transit, and travel conditions.

The Arterial Performance Advisory system (APMS) project will be crucial to collecting the real-time congestion and delay information needed to supplement the information already available on the region's expressway and tollways. The APMS is in its early design and development phase that will be completed in time to support the **Smart Moves Chicago** Congestion Initiative.

The Arterial Performance Monitoring System will provide real-time, reliable traffic data 24/7/365 using non-intrusive and/or probe technologies to collect the base real-time data required to compute the performance statistics. The proposed system will present data in multiple formats including a database of real-time performance statistics with identifiable locations, a “Traffic Flow Map” using data gathered from a non-infrastructure intensive sensor network, and aggregate statistics.

The network will provide detailed flow maps of the city and region without the usual investment in infrastructure. This map will be available and accessible to the public on city and regional websites. The public can utilize this information to enhance and provide a more efficient driving experience. The map displays will be enhanced to provide color-coded speed or congestion identification to the GIS-based Graphical User Interface (GUI) in the Office of Emergency Management Communications to support regional traveler information websites.

The system will be used in trip planning, and traffic and transit operations. Traffic parking restrictions, traffic reroutes, special event, signal timings, transit scheduling, and field evaluations are applications that can potentially make use of APMS supplied data and provide for the more efficient flow of traffic. The City’s goal is to utilize the APMS data in conjunction with interconnected traffic signals, which will result in more efficient movement of traffic, and a reduction in air pollution. IDOT, RTA, and the Tollway have similar and additional uses for the APMS data including traveler information for arterials, and coordination of expressway/tollway and arterial operations, transit operations, etc.

Alternatives to be evaluated to provide data for the APMS include non-intrusive and/or probe-based technologies such as cell phones, transponders, and non-intrusive roadside devices, Global Positioning Satellite (GPS) enabled probe vehicles, commercial vehicle fleets, etc. To illustrate one approach, the base data could be extracted from cell phones detailing the timing of hand-offs from one cell tower to another, as well as using signal strength data from surrounding cell towers. The APMS should incorporate algorithms capable of discerning walkers from vehicles, as well as to determine the probable road being used. This system implementation would monitor the regional roadway network including arterial streets, expressways, and tollways. A phased approach is acceptable which would initially monitor the arterial streets that feed into the City of Chicago Central Business District. The system will be expanded to

provide real-time performance information on Strategic Regional Arterials, and to all arterials. The system could also be used to supplement and enhance real-time data currently available on regional expressways and tollways from existing infrastructure based technologies.

Technologies available to monitor and improve traffic based on the APMS data include traffic signals, ramp meters, Variable Message Signs (VMS), and Highway Advisory Radio (HAR), transit signal priority, and other components in the traffic decision-making process. Typical improvement in travel times is expected to be 15% in corridors where signals are interconnected.

Projects already funded and underway such as the APMS, the Truck Route Advisory System, the Detour Advisory System, and projects for which funding has already been sought and scope developed such as the Parking Management and Advisory System will be integrated with the Chicago TMC and the regional Gateway to make this information available to operators and travelers. The Smart Corridor elements will also contribute to the regional information environment that will improve operations and provide travelers with the quality and content they need to make effective, congestion-reducing, and environmentally supportive decisions.

vi. Traffic Management Center Enhancements

Implementation of the Chicago Traffic Management Center (Chicago TMC) is currently underway. With the establishment of the Chicago Traffic Management Authority within the Office of Emergency Management and Communications (OEMC), the Chicago TMC facility and system were co-located with the Chicago 911 Center, Operations Center (OC), Chicago Incident Center (CIC), and Joint Operations Center (JOC). Each of these systems are located at, and operated by the Chicago OEMC from its facilities immediately west of the Chicago Central Area. Implementation of the Chicago TMC is continuing and includes specification and procurement of computer and communications hardware; installation and configuration of supporting infrastructure; and development, testing, acceptance, and operation of software to integrate traffic and related functions. Collectively this requires development, deployment, and installation of an Advanced Traffic Management System (ATMS). In accord with the Chicago regional ITS architecture the Chicago TMC will be fully integrated with other management and operations centers through the Gateway system.

Thus real-time information will be shared across systems, jurisdictions, and operators to facilitate coordinated and more effective operation and response strategies including those envisioned under the Congestion Initiative.

Several TMC component systems are already operational at the JOC, CIC, and OC. The software and ATMS to interface these systems is a key component of the Chicago TMC. These systems include: 911 Police and Fire CAD systems and workstations; DSS Tow dispatch systems and workstations; CPD POD video systems and workstations; CDOT signal systems, traffic camera and permit systems and workstations; over 2,000 Operational Virtual Shield (OVS) systems and video workstations; DSS snow room and radio room systems and workstations. A backbone fiber and wireless communications network, server and workstation hardware, and subsystems software are also available to interface the Chicago TMC ATMS and components of the related systems.

Concurrent projects will also be integrated with the TMC ATMS including: traffic system control software upgrades; Variable Message Sign (VMS) control systems; incident management software systems; video integration systems; signal, accident, permit, and ADT databases; Highway Advisory Radio (HAR) systems and upgrades; expansions from the Transit Signal Priority (TSP) Western Avenue pilot system and other TSP systems; the Cicero Avenue Smart Corridor prototype systems as well as the additional Smart Corridor systems proposed as part of the **Smart Moves Chicago** Congestion Initiative; the truck route and detour event advisory systems; and the arterial congestion advisory systems/Arterial Performance Monitoring Systems; among others.

Implementation of the Chicago TMC follows the Preliminary Design Study (Final Report dated August 2002) and the Project Development Report (Final Report dated September 2005), and is being pursued in accordance with the final functional requirements completed as part of the Chicago Phase I/II project.

No added funding is being requested specifically to complete the Chicago TMC deployment under this ITS-OTMC. Funding for the required design, development, deployment, testing, and operations of the core elements of the Chicago TMC is already in place. However, as the focus of the monitoring, control, information sharing, and operation and management of the City of Chicago ITS infrastructure, the technology components included in the **Smart**

Moves Chicago Congestion Initiative provide the added opportunity to accelerate the planned integration of systems. Take together with the Gateway Integration project the ITS-OTMC will enhance the cooperative environment and improve the operation and management of the regional transportation systems.

7. Identification of the facilities that will be covered by the operational test

The operational test will focus on I-90, I-55, and the Chicago CBD. The test will also involve facilities intersecting these streets (I-290, I-94, I-355, and I-294) as well as surrounding arterials (e.g., those identified in the appendices).

This ITS program is integrated within a larger program to bring congestion relief to the CBD and the I-90 and Southwest Corridors. Congestion pricing will be deployed along I-90 and in the Chicago Central Business District. Therefore, the Chicago Metropolitan Urban Partnership seeks to improve arterial operations so they can better handle traffic flow, improving mobility for all road users.

In addition to the congestion-priced roads, and in addition to the streets and locations shown in the appendices, the Partnership will improve suburban transit routes with technology to raise transit travel speeds and improve reliability. These routes include Higgins Road, Golf Road and Milwaukee Avenue in the I-90 corridor (designed as an alternative to congestion pricing), and Cermak Road, Archer Avenue, and Ogden Avenue in the Southwest Corridor.

New ITS technology will also be deployed along I-55 in the Southwest Corridor.

8. Timeline for implementing ITS congestion mitigation technologies;

The Urban Partnership has identified the following general plan for implementation:

To implement the Partnership activities, the Partnership proposes the following schedule, subject to approvals:

2007
Federal and state agreements
Intergovernmental agreements drafted
Necessary board endorsements
Public information and outreach
Engineering & economic evaluation
Program evaluation and integration
Public involvement

2008
Intergovernmental agreements approved
Legal authority granted
Engineering & economic evaluation
Program evaluation and integration
Public involvement
Communications infrastructure

2009
Engineering & economic evaluation
Program evaluation and integration
Public involvement
Communications infrastructure
Public information and outreach
Construction
Phase-in of program elements not requiring construction

2010
Engineering & economic evaluation
Program evaluation and integration
Public involvement
Communications infrastructure
Public information and outreach
Construction
Phase-in of construction and non-construction program elements

2011
Program evaluation and integration
Public involvement
Complete phase-in of substantial part of program elements

A number of the specific projects described above have already indicated a project-specific timeline. More generally, the ITS implementation plan would follow the need to move quickly with the program to implement congestion pricing. Since the technology to implement congestion pricing is already deployed, while some arterial and transit ITS mitigation measures are not, we recognize that this may be a problem we need to address and will seek federal advice in doing so.

9. Anticipated Effects of ITS Congestion Mitigation

The Chicago Urban Partnership is hopeful that ITS can be used to improve how several modes of travel function. In particular, with proper management, ITS can help improve the reliability of travel times.

The ITS technologies can also improve safety of travelers, either directly as in the pedestrian countdown signals, or indirectly as in the CCTV project to be used for incident detection and management.

10. Monitoring and evaluation

An Evaluation Strategy

Overall Evaluation Approach

The Chicago Partners understand that evaluation is an absolutely central component of the UPA and individual programs like the ITS-OTMC. Although reducing congestion in the Chicago region is of course the primary goal for the region, we understand that USDOT's interest is in improving the understanding of what works—how, why, and how activities in Chicago will translate to the many other regions throughout the country facing similar congestion challenges. These evaluation needs include both a heavy emphasis on "system impacts", quantifiable, before-after measurement of congestion levels and other key parameters associated with the various strategies that will be implemented, along with "knowledge transfer", capturing all of the lessons learned that will help USDOT and agencies around the country refine their congestion mitigation policies and strategies. With this understanding, the Chicago Partners have placed evaluation considerations at the center of our program development activities and have made a strong, serious commitment to evaluation.

The Chicago region's commitment to evaluation—to capturing not only quantifiable measures of the effectiveness of various strategies but also the many lessons learned and findings related to "process"—is demonstrated by the following:

- **Reviewed Guidance.** We have carefully reviewed the various USDOT ITS evaluation guidance documents, including the TEA-21 Evaluation Guidelines, ITS Evaluation Resource Guide, ITS Integration Self-Evaluation Guidelines, and ITS Integration Program Unit Cost Collection Guidelines.

- **Carefully Considered Evaluation Issues**. As part of our background data gathering in developing this application we have discussed evaluation issues and strategies with organizations with extensive experience in conducting evaluations of major ITS deployments, including national model deployments and other major federal demonstrations.
- **Partnering with Regional University and Research Organizations.** The Chicago region hosts nationally known university and research institutions, which have a long history of working with the Chicago Partners to conduct technical analysis and evaluations. The Chicago Partners would use this resource base to assist in the development and execution of a comprehensive evaluation program. Many of these institutions have participated in the discussions and debate that have culminated in the program of projects and strategies included in the regional Congestion Initiative. We propose to build on these discussions and to make full use of the locally available university and research resources to conduct he data collection, analysis, and assessments that will be incorporated in the regional program and to coordinate these efforts with the national evaluation team.
- **Synergistic Partnering with the National Evaluator.** We are fully committed to working closely and cooperatively with USDOT's third-party evaluator and view the relationship between local and federal evaluation activities as a partnership. We are prepared to embrace the involvement of the national evaluator and provide them access to our process from concept refinement through post-implementation. The Chicago Region understands the various milestones and deliverables associated with the national evaluation (e.g., an Evaluation Plan containing goals, objectives, testable hypotheses, etc., Detailed Test Plans, Baseline Data Collection and Analysis, and Post-Implementation Data Collection and Analysis) and is committed to participating vigorously in their development.

Key aspects of the overall evaluation strategy that the Chicago Partners will bring to the UTA, ITS-OTMC and other program implementations include the following:

- **Evaluation considerations central to project concepts.** We understand that the value of any congestion reductions is greatly diminished from USDOT's perspective if those reductions cannot be quantified and if the specific mechanisms for realizing

those reductions—the causes and effects—as well as various lessons learned, are not captured. For that reason, the ability to capture and understand impacts has been a central consideration in our development of specific strategies. For example, it is one of the key reasons that the Chicago Region has chosen to focus on specific travel corridors.

- **Building in data capture mechanisms during design.** Our strategy is to work closely with the national evaluator early in the process to identify key hypotheses and the associated data requirements, and then to build mechanisms for capturing, archiving and sharing key data into the project designs.
- **Address extraneous factors.** Extraneous factors—factors like weather and construction that impact congestion but which are unrelated to mitigation strategies—represent a major evaluation challenge. Methods for controlling for extraneous factors will be central in the development of our detailed evaluation approach. Indeed, several extraneous factors like planned roadway construction have played a key role in the Chicago region's selection of demonstration travel corridors. Overall, it will not be impossible to completely eliminate extraneous factors. Rather, the general strategy is to attempt to control for the influence of these factors, mostly by identifying "before" and "after" evaluation conditions with comparable levels of extraneous factor influence.
- **"Tracing" modal and temporal shifts through the "yoked push-pull strategy pairs".** The notion of "pushes" (forces to remove travelers from targeted roadways at specific times) and "pulls" (forces to attract travelers to alternative roadways, modes, and travel times as well as to eliminate trips entirely, e.g., through telecommuting) are central to our congestion mitigation strategy. We have identified what travel behavior changes we are trying to influence and have developed various push and pull strategies to affect them. These pushes and pulls are "yoked", or "paired" in so much as in order to be effective, an given push and pull must operate on the same set of travelers in order to be effective. Such a linking of push and pull strategy elements is highly conducive to evaluation and our evaluation strategy will include not only assessment of outcomes (congestion reduction) but also the effectiveness of various push-pull strategy combinations.

Specific Evaluation Approach

Overall, the Chicago partners believe that the appropriate time to develop the specific evaluation strategy is during the design and implementation of the congestion mitigation projects. At that time, the national evaluator will be on board and able to work cooperatively with the Chicago partners to ensure that all local and national evaluation needs are fully met and that mechanisms to collect necessary evaluation data are incorporated into the technical and institutional designs for the projects. Key elements of the specific evaluation strategy are expected to include the following:

- A primary focus on quantification of congestion reductions (before-after) on the three controlled-access, primary study routes: The Stevenson Expressway (I-55), the Northwest Tollway (I-90), and the Skyway (I-90). A preference will be placed on "a few good measures"—simple statistics meaningful to the public and decision makers (e.g., travel times) which can be accurately collected and which support before-after comparisions. The "few good measures" approach would apply equally to assess the congestion impacts of the Central Area strategies proposed as part of the coordinated strategy.
- A supporting focus on quantifying the before-after impacts of the various "push" and "pull" strategies aimed at reducing congestion on the three study routes. That is, "tracing" person trips displaced by congestion pricing on the study routes to other roadways, to new and improved transit services, etc.
- Extensive utilization of various quantitative "system data" (e.g., bus ridership, congestion statistics, etc.) coupled with qualitative data like surveys and interviews, including making key project partners available to the national evaluator for gathering of lessons learned and "process"-related findings.
- Development of specific objectives for the overall implementation and for individual strategies.
- Development of impact hypotheses for the individual strategies.

11. Plans for meeting all Federal, State, and local legal and administrative requirements for project implementation, including relevant Federal-aid planning and environmental requirements;

Issues regarding federal planning and environmental requirements have not been addressed. The Partnership will begin to address these issues if it is "shortlisted" or selected as a partner.

CMAP staff has the capabiltity to address technical planning requirements.

Value pricing is addressed in the 2030 Regional Transportation Plan.

12. Public involvement

Value pricing integrated with other transportation improvements is the central innovation of the Urban Partnership. To that end, early public involvement has occurred in earnest for this program. Discussions of value pricing began in 2003 during discussions regarding financing of the Regional Transportation Plan. Mayor Rupp Srch of Villa Park, in her regular June 2003 letter to fellow suburban mayors, stated "As user fees are contemplated, we expect value pricing to be explored. Examples of value pricing include discounted fares for electronic fare payments to reduce congestion, higher charges for congested times, and higher charges for bottlenecks. If fees must be raised, they can be raised strategically to improve the performance of the transportation system" (*Letter to Mayors*, June 2003).

Value pricing efforts to date have brought good reviews, since it was clear that there was a mutual benefit for public agency and private person in such transactions (e.g., steep discounts for electronic tolling leading to the open road tolling program of the Illinois Tollway).

Value pricing is endorsed as a strategy of the 2030 Regional Transportation Plan. Value pricing is also recommended as a congestion mitigation strategy in the regional Congestion Management System.

Several interest and advocacy groups are currently investigating the benefits of value pricing. A few of these are involved as Urban Partners. In addition, we have heard concerns from the public and the press about value pricing activities. Thus, we are preparing materials explaining the benefits of congestion pricing so the issue can be considered properly.

The region has also engaged in public involvement regarding ITS. Approved documents include a regional architecture and a deployment plan. Extensive stakeholder involvement was used in putting together these plans, which we are seeking to implement with federal funds we are seeking today.

13. A description of private entities.

Two key agencies in the Urban Partnership are private or non-profit

The Chicago Skyway Toll Bridge is operated by a concessionaire, as described in an earlier section.

I-GO is associated with the Center for Neighborhood Technology, a not-for-profit agency, and is also associated with the Flexcar Network.

Part II: Operational Testing Value

Operational Testing value is the extent to which the project demonstrates to other states, metropolitan areas, and other jurisdictions the potential of ITS technology to solve congestion problems.

When implemented, the technology tested by this project will benefit other states and municipalities because similar technologies will be implemented in three different development environments. In addition, similar ITS technologies will be tested in conjunction 3 different pricing solutions. The ability to compare the success of the ITS technologies implemented within different development environments and linked to different pricing solutions will provide others interested in implementing ITS to solve congestion problems a way to compare their own situations and to evaluate whether the technologies can be implemented with equal or better success within their own locales.

Combinations Tested

The Northwest corridor is largely dense suburban development. It includes residential, retail and business centers, as well as a large international (O'Hare) airport and airport associated development types.. Transportation service in the corridor includes a dense street network with many multi-lane major arterials, the I-90 tollway already using open road tolling, widespread bus public transportation in the suburban areas and high service heavy rail on both north and south edges of the corridor. The northwest corridor test focuses on changing the existing toll structure based on congestion levels using toll technology that is already in place. This will be accompanied by technology-improved arterial traffic flows, technology improved transit service and improved express bus on the tollway. This project tests

the basic concept of highway variable tolling paired with improved public transportation and arterial operations.

The southwest corridor is less densely developed than the northwest corridor. Its development tends more towards residential, industrial and, increasingly, huge warehousing operations. This corridor also includes Midway, the region's other main airport. I-55 is a congested untolled expressway with heavy freight traffic. The corridor roadway network is sparse with few continuous multi-lane major arterials. Bus transportation in the suburban areas of this corridor is very limited and available heavy rail is either low-service (Metra Heritage) or remote (BNSF). This corridor is intended to test improving transit service by developing a technology-enabled shoulder lane BRT, and further reducing congestion by allowing freight to purchase excess capacity in the lane. Because limited width at some points on shoulder, this solution is highly dependent on vehicle guidance technology that is not in widespread use on the roadway system. This corridor will also include "smart corridor technologies" that improve arterial traffic flows and improved arterial bus on the two routes that approximately parallel the expressway.

The central area projects are located in downtown Chicago. This is the densest geographic area of the region. The grid street network, expressways, bus and rail service combine to provide the highest level of public transportation in the region. However, the CBD continues to experience congestion. The test in this area focuses on pricing parking and freight movement during congested times to reduce congestion. In addition, technologies such as smart corridors, signal coordination improvements, parking management, targeted incident management, surveillance, and closed-circuit TV will also be employed here, all coordinated through the City's traffic management center. Technology to improve pedestrian safety and accessibility and to support and encourage use of transit and alternative modes such as bicycles and car-sharing as part of a coordinated regional strategy will also be deployed and tested in the CBD. New fee collection infrastructure will also be necessary to collect new truck fees. This will test unique pricing strategies downtown with direct ITS support, and indirect congestion management through the northwest and southwest corridors as access routes to the area.

Operational Testing value is enhanced by taking advantage of the complementarities among different congestion mitigation strategies (such as congestion pricing, transit capacity, and telecommuting).

These three corridors merge at the CBD. While the pricing strategies under consideration in each corridor differ, they produce similar peak period results and the combined impacts of the strategies will be realized both within the separate corridors and multiplied in the CBD. The other complementary strategies included in the program, including increased support of the region's car-sharing program, ride-sharing outreach and promotion, and flex time business partnerships will support the pricing and ITS strategies to improve system performance throughout the corridor.

The ITS strategies in the corridors also complement each other. For example, in the northwest and southwest corridor, traffic management centers will manage arterials to reduce congestion. This includes signal coordination, parking management to remove on-street parking for increased roadway capacity. The expanded capacity and better traffic flow will improve conditions for bus service. The technology employed to actively manage the corridor arterials also allows transit signal coordination and transit signal priority, which improve the roadway function for buses even beyond that of autos. The technology equipped buses will be better managed to take advantage of the improved arterial and expressway conditions and also provide real time information to riders. Parking management technology at park and ride lots will further improve rider and operator information.

The application should describe how the various parts of the overall congestion reduction strategy interact to enhance their overall effectiveness in reducing congestion.

The application of differential tolls based on existing tolling technology on I-90 will force people off I-90 during congested periods and onto the arterials, public transportation, or into a different time period. Roadway surveillance technologies will collect information on expressway and arterial operations that will be provided in real time so they understand the conditions they are basing their choices on.

Express Bus on I-90 and BRT on the Southwest Corridor would become available. On I-90, tolling will maintain free flowing traffic conditions so a dedicated BRT lane will not be necessary. Express bus will also be offered in the southwest corridor. In addition an evaluation of the engineering and travel impacts of an exclusive BRT shoulder lane using lane-keeping technology will assess the feasibility, desirability, use and congestion relief of this innovative strategy in the Southwest Corridor. The technologies will make the BRT even more attractive with real-time roadway and transit information confirming to drivers that the

BRT would provide a shorter travel time than driving.

Particular to the southwest corridor, the pre-implementation study will evaluate a priced lane to encourage truck usage, freeing up some capacity for vehicles left on the remaining roadway. However, the driving lanes should remain congested enough to encourage truckers to use the BRT/Truck lane, producing a choice-based revenue stream for further transit improvement. As longitudinal guidance devices eventually become commercially available, the technology equipped shoulder could institute their use. This should further increase the capacity of the shoulder, allowing more capacity available for sale. Should BRT be implemented in the new guided lane with parking management to inform users about parking availability at the adjacent BRT served parking lots, more transit users would be attracted off the roadway. Sensors collecting information about congestion in the unpriced lanes and travel information on the priced lanes will provide real-time mode comparison information for users so they will actively choose to use the new BRT service.

For those who choose to drive during the same time period but shift to the arterial network, technology will support transit service as well as drivers. Arterial monitoring technology will provide real time information on traffic conditions. Transit signals can be coordinated using the communications backbone, improving traffic flow. Traffic management centers will take advantage of the improved roadway monitoring and communications backbone to make real-time operational decisions and implement targeted incident management.

Using the new technology, transit vehicles will also be given signal priority to improve the service for riders. Smart corridor features proposed for deployment include, among other strategies, adaptive signal control, advanced signal systems, lane management, highway advisory radio, and enforcement technologies. These same technologies will be used by implementers to monitor the effectiveness of the program and give a foundation for any needed changes to the program. Traffic management centers will collect the information to identify problem locations.

Bus tracking will be employed in each corridor to improve operations. The tracking technologies will be used to provide customers accurate information on the conditions they can expect on the arterial bus transit systems such as departure and travel times. For the implementers, this information will be used to monitor schedule adherence and make adjustments as needed to provide a reliable

service. The information collected by the bus-tracking technology will be made available to the public in real time via handheld devices (BlackBerries, cell phones) or on the internet.

The application should also discuss what elements of the applicant's strategy are novel, and how the applicant believes these elements hold promise to reduce congestion in other metropolitan areas.

There are a number of especially unique aspects being tested within this project. Technology equipped lanes to increase capacity on an expressway have not yet been tested in a real-world situation. If driving on unusually narrow lanes becomes safe based on modern technology, this could allow an additional lane of capacity to be implemented on some expressways without requiring additional right-of-way, and for such capacity expansions to happen quickly. In addition, if longitudinal guidance devices fulfill the promise of safely reducing vehicle spacing at higher speeds, this could also increase roadway capacity. If roadway capacity were technologically increased, this would also mean that congestion pricing would have to remove fewer vehicles from the roadway to maximize throughput.

For transit, real time tracking and of an entire fleet of buses has not been implemented. Providing real-time information to bus operators so they can enforce schedule adherence and implementing roadway technology to make that easier over a wide geographic area is also new. For riders, very good schedule adherence and consistent travel times begin to give bus transportation the advantages of rail. Most of the routes already exist, and monitoring ridership via the existing farebox technology should show whether implementing this technology actually changes people's behavior. If schedule adherence, travel time advantages and real-time information are successful for bus transportation, this has the potential of making the most common and most flexible form of public transportation competitive with the automobile. This would also illustrate that improved technology could help reduce congestion problems through development of a bus-based system, rather than continuing to believe that only rail-based transit can provide these advantages.

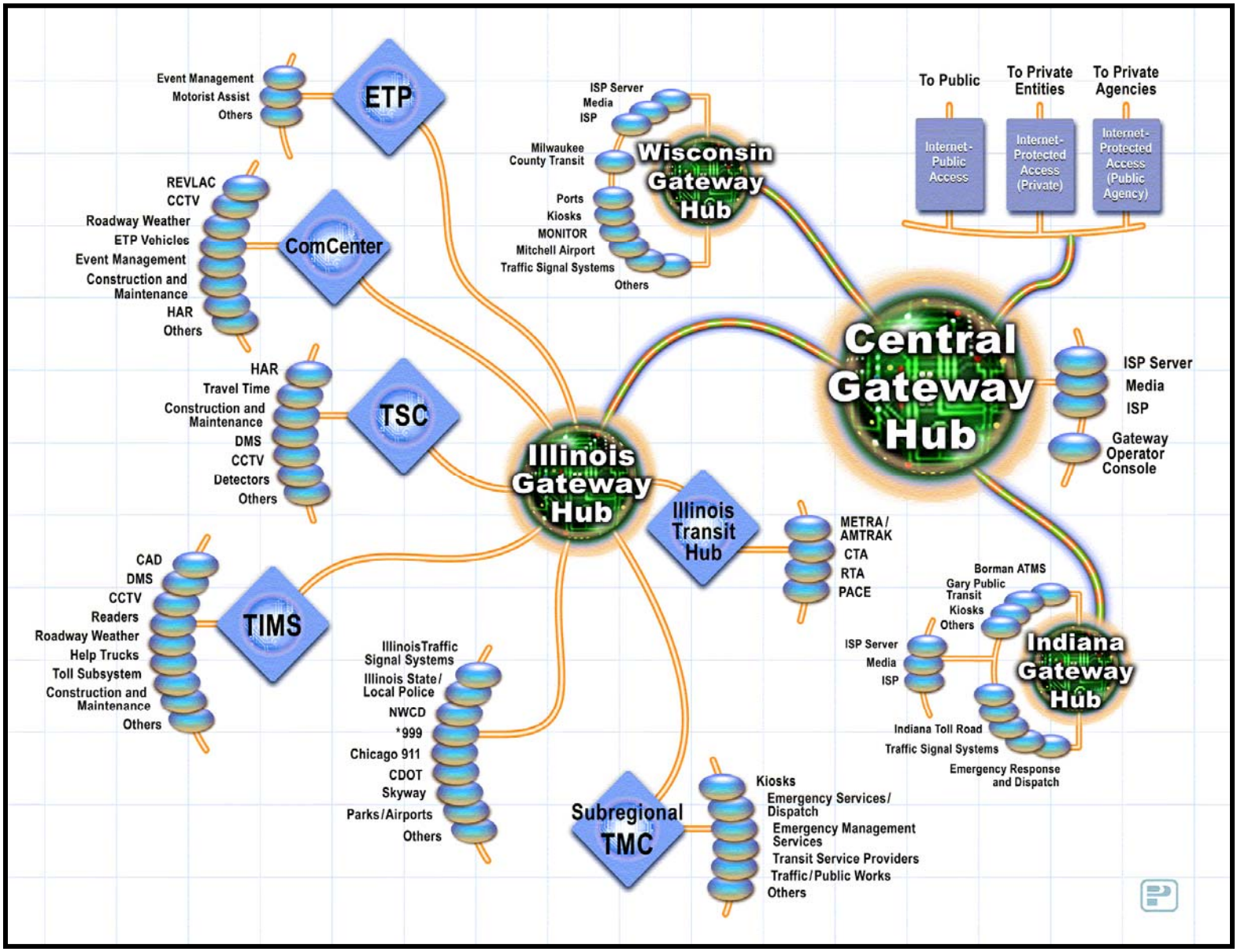
Another unique aspect of this project is that each operator, both roadway and transit, will be provided with more information about the operation of their facilities than ever before. The collection of real time data will provide the means to evaluate the impacts of the technologies and how they perform throughout the day and over time in a broad geographic area. Until now, only the expressway system

collected information with this level of detail. This project will provide evidence, through direct measurement, of the value of investing more capital funds in ITS to improve operations and reduce congestion.

The Chicago metropolitan area is uniquely positioned to implement and evaluate an aggressive, multi-modal, and cooperative program to attack congestion. We have a strong history of regional cooperation and have been innovators in the development and use of technology to address transportation needs for over forty years. The nation's first expressway surveillance and management systems were deployed in our region at the Transportation Systems Center (TSC). More recently, the Illinois Tollway has been the first to implement system-wide "open-road" tolling using Electronic Toll Collection technology. The Tollway Incident Management System and the Lake County Passage ATMS are among the first and few systems to be integrated with emergency services and public safety Computer Aided Dispatch systems. Our transit agencies have deployed state-of-the-art AVL and Intelligent Bus Systems and operate sophisticated control centers. Most significantly we are well advanced in deploying a regional architecture that recognizes and is implementing a strong integration of traffic, emergency, public safety, and transit management systems and operations centers as shown in Exhibit YYYY.

Our Urban Partners are active participants in the Gary-Chicago-Milwaukee Corridor Coalition (GCM). A regional network of fiber and other communications technologies provides the backbone "data-pipe" to implement and support this architecture. The GCM Gateway Traveler Information System has been deployed and operated for over ten years to link the major centers using an open, standards-based technology that facilitates the integration of existing and planned centers. Gateway is the regional center for the collection, fusion, validation, and sharing of real-time information to support efficient and coordinated operations and to provide quality information to travelers. The most visible product of this cooperation is the award-winning www.gcmtravel.com website which produces over 30 million page views per month and provides real-time data to the media, private Information Service Providers, researchers, and the public.

The UPA and ITS-OTMC provide the opportunity for the Chicago metropolitan region to accelerate the deployment and use of technology and to demonstrate to other regions the value and effectiveness of a cooperative program of integrates systems and services that includes technology, tolling, telecommuting, and transit to eliminate congestion.


ETP
Event Management
Motorist Assist
Others
ComCenter
REVLAC
CCTV
Roadway Weather
ETP Vehicles
Event Management
Construction and Maintenance
HAR
Others
TSC
HAR
Travel Time
Construction and Maintenance
DMS
CCTV
Detectors
Others
TIMS
CAD
DMS
CCTV
Readers
Roadway Weather
Help Trucks
Toll Subsystem
Construction and Maintenance
Others
Wisconsin Gateway Hub
ISP Server
Media
ISP
Milwaukee County Transit
Ports
Kiosks
MONITOR
Mitchell Airport
Traffic Signal Systems
Others
Illinois Gateway Hub
Illinois Transit Hub
METRA/ AMTRAK
CTA
RTA
PACE
Illinois Traffic Signal Systems
Illinois State/ Local Police
NWCD
*999
Chicago 911
CDOT
Skyway
Parks/Airports
Others
Subregional TMC
Kiosks
Emergency Services/ Dispatch
Emergency Management Services
Transit Service Providers
Traffic/Public Works
Others
Central Gateway Hub
To Public
To Private Entities
To Private Agencies
Internet-Public Access
Internet-Protected Access (Private)
Internet-Protected Access (Public Agency)
ISP Server
Media
ISP
Gateway Operator Console
Indiana Gateway Hub
Borman ATMS
Gary Public Transit
Kiosks
Others
ISP Server
Media
ISP
Indiana Toll Road
Traffic Signal Systems
Emergency Response and Dispatch

Budget

At this stage of proposal preparation, the details requested for the ITS grants are not all available. If metropolitan Chicago is selected for further review in this process, the Partnership will provide information necessary for further evaluation and partnering to put forward the best, most cost-effective plan.

Below is a budget by task (all dollars in thousands).

Task	ITS-OTMC Federal Request	Match Cost	Total Cost
Chicago Signal Interconnects	$35,100	$8,775	$43,875
Smart Corridors	$22,052	5,513	27,565
Signal Timing Optimization	1,642	410	2,052
Incident/Traffic Management	6,016	1,504	7,520
Pedestrian Countdown	728	182	910
Train Tracker	5,219	1,305	6,524
Bus Tracker	34,978	8744	43,722
New Fiber Optic Backbone	3,400	850	4,250
Improved Surveillance	4,800	1,200	6,000
Closed Circuit TV	1,800	450	2,250
I-55 BRT Shoulder Lane Demonstration Project	600	150	750
Parking Management	600	150	750
Gateway – City/County Traffic Management Center Integration	5,630	1,408	7,038
Total	122,565	30,641	153,206

5. The use of a Dun and Bradstreet (D&B) Data Universal Number

TUNDE BALVANYOS

3423 W. Drummond Place, 3A
Chicago, IL 60647
510-306-8260
balvany@yahoo.com

SUMMARY

Tunde Balvanyos is a high impact transportation professional, who, since obtaining her Doctor of Philosophy in Civil Engineering, has gained 7 years experience. Her Carnegie Mellon University education gave her expertise in intelligent transportation systems, systems analysis, and economic evaluation. Her diverse experience in transportation has evolved to a focus on Bus Rapid Transit (BRT) and related ITS Technologies. She has a proven record of accomplishment in BRT program development and implementation.

PROFESSIONAL EXPERIENCE

10/2005 - Present **Pace Suburban Bus**

Bus Rapid Transit Coordinator

Manage the planning, development and implementation of an extensive BRT network. Responsibilities include:

- Identifying funding sources
- Coordinating the multiple jurisdictions that will be served by the BRT network
- Identifying the optimum service corridors
- System planning and design
- Estimating equipment requirements and costs for various levels of service
- Managing the project team

8/2004 – 9/2005 **Alameda Contra-Costa Transit District**

Engineering Intern

Enhanced AC Transit's BRT system. Responsibilities included:

- Managing AC Transit's real-time passenger information system
- Managing the implementation of real-time signage in the cities of Berkeley and Oakland
- Managing the relocation of the bus stops for BRT service in the cities of Berkeley, Emeryville, Oakland and San Leandro
- Evaluating the impact of Transit Signal Priority on bus travel times and reliability in the city of San Leandro
- Representing AC Transit on the "Task Team" committee advising Caltrans on activities to support Bus Rapid Transit implementation statewide;
- Representing AC Transit on the Technical Advisory Committee for the Metropolitan Transportation Commission's Bay-Area real-time passenger information system;
- Representing AC Transit on the Technical Advisory Committee for the City of Oakland's bicycle plan; the committee focused on resolving bike/bus conflicts on arterial streets and coordinating the city's 5-year bicycle plan with AC Transit's plans and programs
- Preparing applications to the Federal Transit Administration for funding for BRT system related projects

TUNDE BALVANYOS

510-306-8260
bavany@yahoo.com

4/05 – 6/05 **University of Southern California**

Consultant

Estimated the short-term microeconomic and sector specific costs of a terrorist attack on commercial aviation by man-portable ground-to-air weapon systems, and the costs of responses such as suspending civilian aviation to the US economy, and of retrofitting aircraft with protection systems.

3/2001 –4/2004 **California Partners for Advanced Transit and Highways**

Transportation Analyst

Responsibilities included managing a portfolio of BRT projects and studies:

- Conducted an economic analyses of intelligent transportation system technologies in transit application (e.g., in Bus Rapid Transit)
- Managed the development and testing of a simulation-visualization tool for BRT planning and evaluation
- Developed system performance measures for BRT
- Evaluated the benefits and costs of various automation technologies and operating strategies for a Chicago Loop BRT circulator;
- Developed a framework for analyzing strategies for phased deployment of BRT.

5/1999 –8/2001 **CCTECHNOLOGIES**

Consultant

Analyzed the benefits and costs of engineering alternatives to extending the useful life of reinforced concrete bridge decks.

- Developed a constrained optimization framework for analyzing the life cycle costs and benefits of alternative management strategies to control metallic corrosion in reinforced concrete bridge decks from both operating agency and user perspectives;
- Analyzed the life-cycle costs and benefits of managing metallic corrosion in reinforced concrete bridge decks including direct (capital, operation and management) and user cost (delays to motorists).

TUNDE BALVANYOS

510-306-8260
bavany@yahoo.com

LEADERSHIP AND SERVICE

- Transit Cooperative Research Program (Transportation Research Board of the National Academy of Sciences), Update of Synthesis 24: AVL Systems for Bus Transit, Panel member (ongoing)
- **Caltrans' Bus Rapid Transit Director's Policy and BRT Handbook for Partners**, transit representative, panel member, 2006
- Transit Cooperative Research Program, (Transportation Research Board of the National Academy of Sciences), Synthesis of transit Practice SB-14: Methods Ridership Communication, Panel member 2006
- Transport Chicago 2006 – Panel member "Implementing BRT-Globally and Locally"
- Canadian Urban Transit Association (CUTA) Fall Conference and trans-expo 2005, Panel member "Where does BRT go from here?"
- ***SmartBRT, New Simulation Tool to Assess Bus Rapid Transit Systems***, The 82nd Annual Transportation Research Board Meeting, Washington D.C., (January 2003)
- ***Recommendations for the Second Edition of the Transit Capacity and Quality of Service Manual***, The 81st Annual Transportation Research Board Meeting, Washington D.C., (January 2002)
- ***Constrained Optimization of Corrosion Design and Maintenance of Reinforced Concrete Bridge Decks***, 80th Annual Transportation Research Board Meeting, Washington D.C., (January 2001)

PEER-REVIEWED PUBLICATIONS AND TECHNICAL REPORTS

- Tunde Balvanyos and Lester Lave, "The Economic Implications of Terrorist Attacks on Commercial Aviation in the USA," Technical Report, USC Homeland Security Center, 2005.
- Tunde Balvanyos, Kourjanskaia, N., Misener, J., Tan, S-K., and VanderWerf, J., SmartBRT, ***New Simulation Tool to Assess Bus Rapid Transit Systems***, future publication in the Journal of the Transportation Research Record, 2003
- Lave, Lester B. and Tunde Balvanyos, ***Risk Analysis and Management of Dam Safety***, Risk Analysis, 1998 Vol.18, No.4, p.455-462.

EDUCATION

CARNEGIE MELLON UNIVERSITY **Doctor of Philosophy in Civil and Environmental Engineering** **2000**

Lowering the Cost of Corrosion in Reinforced Concrete Bridge Decks: Design, Management and User Cost

CARNEGIE MELLON UNIVERSITY **Master of Science in Civil Engineering** **1997**

Cost Benefit Analysis Tool for Automated Highway Systems

TECHNICAL UNIVERSITY OF BUDAPEST **Master of Science in Civil Engineering** **1993**

MISCS.

Permanent resident of the United States of America (Green card holder with no visa requirements)

HAROLD R. DAMRON

B.A., C.E.M., C.F.M.

11120 DENNY AVENUE ~ MOKENA, ILLINOIS 60448

PROFESSIONAL EXPERIENCE

Will County Emergency Management Agency

Chief Deputy Director January, 1991 – Present

- Oversee general operations of agency
- Represent the director in a variety of settings and circumstances
- Supervise a combination of full-time and volunteer personnel
- Direct emergency planning activities
- Oversee radiological and chemical emergency preparedness activities
- Coordinate terrorism preparedness activities
- Coordinate response to various types of emergencies and disasters
- Assist municipalities with emergency preparedness efforts
- Conduct emergency preparedness training for local officials

Mokena Emergency Services and Disaster Agency

Director August, 1988 – June, 1999

- Provided overall leadership and direction to all-volunteer agency
- Prepared and maintained Village's emergency operations plan
- Prepared, submitted, and justified agency budget to Village Board
- Developed Village's first outdoor warning system
- Recruited and trained volunteer personnel

Member March, 1985 – August, 1988

- Responded to various types of emergency incidents
- Assisted with agency administrative functions

EDUCATION

- Governors State University, University Park, Illinois — April, 2004 — Bachelor of Arts, Emergency Management Concentration
- Joliet Junior College, Joliet, Illinois — May, 1998 — Associate in General Studies

CERTIFICATIONS & QUALIFICATIONS

- Certified Emergency Manager (CEM), International Association of Emergency Managers
- Professional Development Series Certificate of Completion, Federal Emergency Management Agency
- Certified Floodplain Manager (CFM), Illinois Association for Floodplain and Stormwater Management
- Amateur Radio License - Technician, Federal Communications Commission
- National Registry Emergency Medical First Responder, Illinois Department of Public Health/National Registry of Emergency Medical Technicians
- Hazardous Materials First Responder Operations, University of Missouri
- Incident Command System Instructor, U.S. Department of Homeland Security, USCG / FEMA

PROFESSIONAL AFFILIATIONS

- American Radio Relay League, Member
- Illinois Association for Floodplain and Stormwater Management, Member
- Illinois Emergency Services Management Association, Member
- Illinois Police Association, Class -A- Associate Member
- International Association of Emergency Managers, Member
- National Association for Search and Rescue, Member
- Will County Police Chiefs Association, Associate Member

OTHER PUBLIC SERVICE

United States Coast Guard Auxiliary July, 2001 – Present

- Currently serve as Division Captain, Division Ten, Ninth Coast Guard District, Western Region
- Lead and coordinate activities of approximately 75 Auxiliarists operating in various mission areas

Anthony N. Khawaja, P.E.
600 Winchester Rd.
Libertyville, IL 60048
E-mail: ankhawaja@co.lake.il.us

HIGHLIGHTS OF QUALIFICATIONS

- Twenty Two years of experience in transportation/traffic engineering
- Managed the Lake County, IL Traffic Department
- Received outstanding performance reviews
- Maintained excellent rapport with clients and colleagues
- Trained on a multitude of transportation-related computer applications
- Procured grant funds to develop the Lake County, IL Passage Program / Traffic Management Center
- Managed the development of the Lake County Passage Program
- Managed the development of GIS based Crash Data computer application
- Managed the development of Lake County Capacity Analysis Record System (CARS)

EDUCATION

B.S. in Civil Engineering, Illinois Institute of Technology (IIT) 1984

PROFESSIONAL EXPERIENCE

Traffic Engineering

- Managing the development of ITS applications in transportation
- Involved in the management of the project to evaluate the feasibility of ITS technology in the automation of traffic data collection process
- Managing the traffic calming program
- Conducting accident analysis and traffic safety studies
- Analyze, Program & Monitor traffic signal system operations

Transportation Planning

- Managing site impact and traffic circulation studies
- Conducting transportation studies for major regional impacts
- Evaluating traffic operational performance of roadway networks
- Developing recommendations to enhance the quality of traffic flow

EMPLOYMENT HISTORY

1990 - Present	Lake County Division of Transportation *Lake County Traffic Engineer* 600 Winchester Rd. Libertyville, IL 60048
1984 - 1990	Connecticut Department of Transportation *Assistant Traffic Engineer* 2800 Berlin Turnpike Newington, CT 06131-7546

CERTIFICATIONS

Registered Civil Engineer, Illinois No. 062-053181

PROFESSIONAL AFFILIATIONS

Fellow Member of Institute of Transportation Engineers
Member of Intelligent Transportation Systems – ITS Midwest

REFERENCES

Available upon request

Patricia (Patti) C. Killinger, PE
769 O'Connell Street
New Lenox, IL 60451
(815) 463-9417 home, (815) 693-1002 cell
pkillinger@willcountyillois.com

CIVILIAN EXPERIENCE:

9/01 to Present, Civil Engineer, Will County Department of Highways
Assisted the Will County Emergency Management Agency and consulting engineer in preparation of a Traffic Management Center Feasibility Study. Established a traffic signal inventory database for state, county and municipal signals within Will County. Permit Engineer, Utility and Oversize-Overweight Vehicle Permits. Coordinate utility infrastructure additions and relocations for road improvement projects, including water, sewer, electricity, gas pipelines, natural gas, cable and telephone. Evaluate overweight vehicle movements to ensure bridge weight limits are not exceeded. Represent the Highway Department in the Will County Emergency Operations Center (EOC).

11/99 to 6/00, Civil Engineer, Illinois Department of Transportation (IDOT), Division of Highways, District 1 (Chicago):
Project Engineer, Bureau of Programming, Project & Environmental Studies. Responsible for six projects in Phase I design. Project improvements included additional lanes, resurfacing and reconstruction, and involved right-of-way determinations, geometric and hydraulic improvements, highway interchange and bridge improvements, noise and sidewalk/bicycle path improvements, and coordination on historic districts and parklands.

MILITARY EXPERIENCE

9/99 to Present - Lieutenant Commander to Commander, Civil Engineer Corps, United States Navy (Reserve)

10/2005 to Present, Public Works Officer at the U.S. Navy port in South Korea: lead 45 Reserve Seabees in training to support maintenance, repair and construction of facilities on the base.

9/02 to 9/04, Contracting Officer, Atlantic Division, Naval Facilities Engineering Command: deployed eight months in support of Operation Iraqi Freedom as Officer in Charge, Marine Engineer Group Contracting Detachment, Al Anbar Province, Iraq. Led 25 Seabees in managing engineering and reconstruction infrastructure contracts involving water, sewer, electricity, schools, courthouses, roads and bridges.

9/99 to 9/02, Contracting Officer, Naval Facilities Engineering Command: developed a contracting certification program for reserve engineers.

5/87 to 8/99 – Ensign to Lieutenant Commander, Civil Engineer Corps, United States Navy (Active Duty)

5/97 to 9/99, Director of Facilities: Managed land, facilities, and environmental programs for 45 Naval & Marine Corps Reserve Centers in a 14-state region. Annual budget $2 Million. Supervised one military and five civil service employees. Directed 45 Commanding Officers. Teamed with local city governments during planning for reserve center relocations. Planned $8 Million of improvements, including streets, parking, drainage, and obtained NEPA clearances. Updated storm water management plans annually.

5/95 to 5/97, Project Manager & Contracting Officer: Estimated and negotiated contract modifications on 26 contracts totaling $70 Million. Supervised three project managers, including one military and two civil service employees. Oversaw contractor management of construction, including site layout, storm water management plan, quality assurance, and schedule.

7/93 to 5/95, Assistant Public Works Officer at an Airport: Planned and executed facilities maintenance and environmental programs, including airport pavements, streets & sewers. Annual budget $5 Million. Supervised 15 military and 36 civil service employees. Managed flood control facilities on the airport border. Served on Labor Management Committee, ensured timely receipt of DoD grant.

9/91 to 6/93, Graduate Student in Civil Engineering: Prepared technical report for the Washington DOT regarding skid resistance standard for highway pavements.

8/89 to 9/91, Seabee Company Commander: Led 130 military personnel in trades of carpenter, electrician, plumber and steelworker. Deployed in Operation Desert Shield to Saudi Arabia and Bahrain. Oversaw surveyors during amphibious craft landings. Managed a construction rehabilitation program for 50 pontoon bridge sections.

9/87 to 8/89, Activity Civil Engineer: Provided facility planning for nine Navy shore activities, annual budget of $4M.

Education

BS Mathematics (General Engineering Courses) 1987
United States Naval Academy, Annapolis, Maryland

MS Engineering, Civil Engineering 1993
University of Washington, Seattle, Washington

Additional Education: IDOT T2 Courses in pavement, bridge and material construction inspection, documentation, erosion control, SIMS bridge database, surveying, snow & ice control; concrete pavement, recycled asphalt pavement, and pavement design workshops; Naval Facilities Contracts Training School; Naval Facilities Executive Institute, Challenge of Executive Leadership; Health & Environmental Risk Communication; Mediation Skills & Techniques; computer software courses (word processing, spreadsheet, database, scheduling and presentation).

Professional: Professional Engineer in Illinois and Wisconsin, Society of American Military Engineers, Navy Reserve Association, Navy Acquisition Professional Community, CEC/Seabee Historical Foundation.

Taqhi Mohammed

1052 N Knollwood Dr, Apt A, Schaumburg, IL 60194. Phone: 847 228 4287(Off)
Email: taqivt@gmail.com 703-597-9240 (Mobile)

EDUCATION June 2003

MS – **Civil Engineering (**Area of Concentration**: Advanced Transportation Systems)**
Virginia Polytechnic Institute and State University, (Virginia Tech), Blacksburg, VA,

Graduate Cert in Public Transportation Systems June 2003
Virginia Polytechnic Institute and State University, (Virginia Tech), Blacksburg, VA

BS- Civil Engineering. November 2000
University of Madras, Chennai, TN, India

WORK EXPERIENCE March 2003 - Current

Transportation Engineer, Long Range Planning Division, Department of Planning Services
PACE – A Suburban Bus Division of Regional Transportation Authority (RTA), Arlington Heights, IL

ITS Projects

Transit Signal Priority Projects (TSP) - *Project Manager*

- Managing the project to install TSP capability at 25-30 signalized intersections to reduce bus delay along corridor.
- Currently working with IDOT on Signal Timing Optimization & interconnects along 30 Intersections as base condition for TSP Strategies.

Queue Jump By-Pass Lane with Bus Specific Signal Feasibility Project: *Project Manager*

- Managing the project, Scope of the project includes prioritization, design and deployment of Q-Jump Lanes along TSP/BRT corridors
- Developed Specifications**,** prioritization methodology**,** scope of work. Project management plan & RFP.

Bus-Only Shoulder Riding Feasibility Project:

- Conducted research and developed a feasibility report for the Chicago region
- Working with IDOT & Northwestern University to develop feasibility report.
- Identified corridor for the demonstration of project, developed research problem statement.
- Author and Panel member of Transportation Research Board TCRP D-13 -2006: A Guide for Implementation of Bus on Shoulder Systems. Project under progress

CATS-IDOT Park N Ride Project-

- Working with CATS & IDOT in location, prioritization and design of Park N Ride lots along major Highways connecting to BRT/ART routes

Other Infrastructure Projects:

Technical Review Assistance Program (TRAP) - *Project Manager*

- Technical assistance and reviews for the various development plans of city municipalities, village councils and developers were provided. Site plans were analyzed and, when appropriate, design options are suggested to make developments more transit serviceable.
- Analyzed and provided the review for more than 60 such development plans annually under Technical Review Assistance Program (TRAP).

Illinois Dept of Transportation (IDOT) Projects- Review Lead

- Reviewed more than 100 IDOT roadway projects within the six county region of Chicago, IL and detailed the transit infrastructure needs of PACE Suburban Bus Service to IDOT

Transit Operations Decision Support Systems (TODSS) Demonstration Project- Federal Grant Project

- Developed a Grant Proposal for a Federal Grant from FTA with coordination from SIEMENS and BAH (consultants). Received 1M $ grant for the project. Project under progress.

Intern - Traffic Engineering Division, Dept of Public Works, Arlington County, VA. Apr2002-Aug 02

Research Assistant – Virginia Tech Transportation Institute (VTTI) April 2002-Jan 2003

Assistant Engineer - KMC (India) June2000-May2001

COMPUTER SKILLS

- Transportation Software: **Synchro, HCS 2000, CORSIM, VISSIM 3.60, Transyt7f, Arc View 8.1, Arc MapInfo, AutoCAD, PETRA, MINITAB, EMME/2 and WinQSB**
- Software: MS Access, Project, PowerPoint, Spreadsheet modeling and analysis using MS Excel.

REASEARCH PAPERS (presented at **MCPTR Transport Chicago 2005)**

- Traffic Engineering Solutions to Reduce Bus Travel Time
- Promoting Transit Friendly Suburban Sprawl- A Pace Initiative

MEMBERSHIP IN PROFESSIONAL ORGANIZATION:

- Young Member: Executive Council on Intelligent Transportation Systems of Transportation Research Board
- Member of Intelligent Transportation Society of America (ITSA)
- Associate Member of Institute of Transportation Engineers (ITE)
- Member of American Public Transportation Association (APTA)

ACHIEVEMENTS

- **Listed as Industry Contributor** in *Transit Signal Priority -Planning & Implementation Hand Book* – USDOT
- **Co-Chair**: *Regional Transit Signal Priority Working Group- Chicago, IL*
- **Nominated** to Transportation Research Board - TCRP Panel D-13 (2006) on Bus Shoulder Riding
- **Member of***: Gary Chicago Milwaukee* ***(GCM)*** *ITS Corridor*-Transit Operators Working Group. *Chicago Area Transportation Studies* ***(CATS),*** *Chicago*, IL**:** Advance Technology Task Force **(ATTF),** Air Quality and Technology Management Task Force **(AQTM)**.
- **Received** AMCO Scholarship/Grant for Graduate Study at *Texas A&M University*.
- Research Assistantship & Funding for Graduate Study by *Virginia Tech Transportation Institute*

THOMAS J. MURTHA
Senior Planner for Strategic Initiatives
Chicago Metropolitan Agency for Planning (CMAP)
233 South Wacker Drive Suite 800, Chicago Illinois
Telephone (312)386-8790. E-mail: tmurtha@cmap.illinois.gov

EXPERIENCE:

2007- Present: **Chicago Metropolitan Agency for Planning.** Chicago, Illinois.
Senior Planner for Strategic Initiatives

I am enhancing the regional congestion management process. I am focusing on implementation of transportation management and operations strategies and adopted performance measures in an integrated program. Project manager for bicycle and pedestrian transportation planning program at CMAP.

1993-2006: **Chicago Area Transportation Study.** Chicago, Illinois. (Now CMAP)
Chief Transportation Planner (2001-2006)

Assisted in developing the *2030 Regional Transportation Plan for Northeastern Illinois*.

- Coordinated various aspects of plan development process. Implemented call for projects. Processed submittals. Oversaw network coding of projects for technical evaluation of alternative scenarios. Supported RTP Committee activities.
- Assisted in plan communications activities. Wrote periodic newsletters for mayors and village presidents. Wrote e-newsletter updating interested individuals regarding the process, meetings, and materials. Developed and maintained plan process Web site, http://www.sp2030.com.

Plan Scope: $65 billion in planned transportation investments over 30 years.

Oversee CATS bicycle and pedestrian transportation planning activities.

- Support activities of CATS Bicycle and Pedestrian Task Force. Organize technical training activities for local agencies. Provide planning support.
- Provide technical information upon request. Respond to requests for bicycle and pedestrian planning information to assist in context-sensitive highway project development. Assist in project and local plan development as requested. Oversee maintenance of Bicycle Information System, a GIS-based inventory of bicycle facilities, a product of the *Soles and Spokes* plan development process.
- Oversee *Palatine-Willow Corridor Study*. Coordinate a process for improving walkability and bikability in a highway corridor slated for capital improvements.

Chief of the CMAQ Program (1995-2001); Program Analyst (1993-1995).

Administered the Congestion Mitigation and Air Quality Improvement Program.

- Implemented and improved project selection procedures. Coordinated the call for projects, project analysis, and rankings. Enhanced project review procedures to improve preliminary cost estimates and to assure the feasibility of approved projects. Supported senior staff in project selection.
- Assisted local agencies in project implementation. Improved oversight of approved CMAQ projects. Worked with sponsors and other staff to develop studies to validate ranking procedures and analyses of demonstration projects. Used results of studies to improve project rankings.

Scope: More than $60,000,000 programmed annually; 200 projects reviewed annually. Assisted in the development of the Transportation Improvement Program (TIP).

- Maintained and enhanced the TIP database. Provided user support.
- Assisted in streamlining of approval procedures for changes to the approved TIP. Interpreted and applied federal planning and environmental regulations.
- Coordinated the data collection and processing for projects to be included in regional travel demand models. .

Scope: Nearly $8 billion programmed over 5 years for more than 2000 projects.

1992-93: **North Central Wisconsin Regional Planning Commission.** Wausau, Wisconsin. Economic Development Planner/General Planner.

Prepared and submitted transportation grant applications. Compiled and distributed U.S. Census Bureau data. Studied parking supply and demand in downtown Wausau. Coordinated data collection for downtown traffic study. Assisted in the preparation of the region's Overall Economic Development Plan (OEDP).

1985-91: **City of Madison Department of Transportation, Parking Utility.** Madison, Wisconsin. Parking Analyst (1988-91). Professional/Engineering Aide (1985-88).

Analyzed and improved municipal parking processes, programs, and facilities. Projected and reported revenues, usage, and expenses for proposed and existing facilities. Prepared five-year cash flow estimates. Conducted numerous ad hoc studies that included extensive field data collection and customer surveys, model building, and simulations. Administered the residential daytime parking permit application process.

EDUCATION:

1990-1992: **University of Wisconsin-Madison.** Master of Science in Urban and Regional Planning. Concentration: Land Use Planning.

1982-1984: **University of Wisconsin-Madison.** Bachelor of Arts. Major: Economics with a Mathematical Emphasis.

1980-1982: Youngstown State University. Youngstown, Ohio.

SELECTED ADVANCED LEVEL COURSES:

Graduate: Development Finance, Capital Improvement Programming/Budgeting, Central City Planning, Real Estate Finance, Land Use Policy and Planning, Real Estate Principles, Land Use Controls, Human Geography.
Undergraduate: Demographic Techniques, Mathematical Statistics, Calculus, Differential Equations, Linear Algebra, Regression Analysis, Public Finance.

VOLUNTEER ACTIVITIES:

1998-2004: **Oak Park Parking and Traffic Commission**, a volunteer village commission which advises the village board on traffic safety and parking. Chairman, 2002-2004. I provided guidance and leadership for a village-wide traffic calming initiative, which resulted in a reduction in traffic crashes with injuries from 440 per year to 330 per year (a 25% reduction) over four years.

CHARLES STEVEN SIKARAS

32312 Village Green Boulevard
Warrenville, Illinois 60555-5903
(630) 393-7587, home
(630) 707-7587, mobile

Professional Experience

March 1992 to Present ITS Program Specialist
Illinois Department of Transportation

- Manages all IDOT ITS Program Office functions and responsibilities since departure of ITS Program Manager in July 2006.
- Develops, reviews and submits all ITS project funding applications that are submitted to the United States Department of Transportation for approval. Develops and administers all IDOT/Federal Highway Administration (FHWA) funding partnership agreements and work orders.
- Manages all contracts, budgets, and accounting activities of ITS Program Office including Federal obligations and reimbursements.
- Serves as ITS Program Office direct contact with internal and external auditors, legal staffs, and FHWA Offices for IDOT ITS projects.
- Serves as Chairman of the Gary-Chicago-Milwaukee (GCM) Coordination Work Group that is responsible for providing policy recommendations to the GCM Executive Committee. The Executive Committee consists of the Chief Executive Officers for the three GCM state departments of transportation (Illinois, Indiana, and Wisconsin).
- Served as Chairman of the GCM Corridor Awareness and Communication Work Group that supported and coordinated the Corridor communication, public information and outreach efforts. In this role, coordinated the development and distribution of the GCM corridor newsletter published three times per year, GCM bi-annual brochure and GCM video. Also authored numerous articles for these public information instruments.
- Serves as the State of Illinois Commercial Vehicle Information Systems and Networks (CVISN) funding coordinator and represents ITS Program Office on the Illinois CVISN agency team. The CVISN program is a Federal Motor Carrier Safety Administration initiative to improve commercial motor vehicle safety.
- Served as Project Manager for the Pilot Study of Advisory On-Board Vehicle Warning Systems at Railroad Grade Crossings. This project involved more than 35 public and private sector participants in the Chicago metropolitan area and included the installation of in-vehicle warning systems in approximately 300 vehicles.
- Makes public speaking presentations on IDOT ITS projects and conducts ITS briefings at ITS Program Office.

August 1983 to March 1992 Director, Transportation Division
Chicagoland Chamber of Commerce (formerly Chicago Association of Commerce & Industry, CACI).

- Developed and implemented private sector policy statements and recommendations for all transportation modes, including traffic safety, highway, public transportation, aviation, rail and maritime.
- Expanded and enhanced liaison with public, private and not-for-profit organizations, regulatory bodies and legislative groups in the preparation, implementation and evaluation of regulations, legislation, and policies in all areas of transportation.
- Acted as general supervisor and day-to-day manager of the Transportation Division and hired, trained, and managed staff to efficiently execute duties within the Association.
- Prepared, administered and evaluated budget and five-year plan for the Transportation Division.
- Recruited renowned guest speakers in the transportation industry and organized all committee meetings.

April 1980 to August 1983 Senior Program Manager, Bureau of Railroads
Illinois Department of Transportation

- Managed railroad grants, loans and subsidies, ensuring contract compliance.
- Developed strategies for negotiating rail contracts. Maintained lead role in contract negotiations.
- Managed marketing programs and financial records for Amtrak 403(b) trains.

September 1976 to April 1980 Fiscal Manager, Division of Public Transportation
Illinois Department of Transportation

- Prepared annual operating budgets and assisted in formulating annual capital program budgets. Reviewed, approved and processed requisitions.
- Managed all operating and capital grant audits with outside consultants and IDOT Audit Section.

Education B.S. in Transportation Systems Management
University of Illinois, Chicago

Other Skills Experience with Microsoft Office Products

References Available upon Request

David A. Tomzik
702 Brandon Place
Wheeling, IL 60090
Telephone: (847) 465-8569 Email: dtom348@aol.com

David Tomzik is a dedicated transit professional with over 17 years experience in transportation planning and transit operations. His experience includes community service and fixed route transit planning, scheduling, Transit Signal Priority, Arterial Bus Rapid Transit, Express Bus, land use coordination and regional planning.

Professional Experience:

Pace Suburban Bus Service, Arlington Heights, Illinois 2001 - Present
Supervisor, Long Range Planning

Supervision

- Manage long range planning team responsible for short and long term transit strategic planning projects
- Support team to achieve highest individual performance
- Administer consultant contracts, approve services, invoices, and payment

Strategic Planning

- Created 5 year growth plan and budget for regional transit funding campaign: *Moving Beyond Congestion*
- Oversee implementation of Pace's Long Range Plan: *Vision 2020*
- Coordinates planning support for Government Affairs Department with regional, state and federal legislative and funding initiatives
- Coordinates system-wide service restructuring planning initiatives
- Developed regional Transit Signal Priority (TSP), Bus Rapid Transit Network (BRT), Regional Suburban Express Bus Network programs
- Directing Alternative Analysis process for Bus Rapid Transit Projects
- Coordinated community planning initiative
- Develops and undertakes capital analysis and grant applications to achieve strategic goals
- Develops restructuring implementation budget

Regional Planning

- Responsible for coordinating planning efforts with regional MPO (CMAP) planning process including advocating support for Pace's strategic planning initiatives
- Represent Pace's interests and voting member on various MPO planning committees and working groups

- Coordination of strategic planning activities with regional and local planning entities including RTA, Metra, CTA, IDOT, ISTHA, Counties and municipalities

- Responsible for UWP, CMAQ and JARC federal funding programs
- Responsible for managing interests in regional development of transit advantage improvements including park & rides, ramp metering, queue jumps and bus on shoulder lanes
- Supervises Pace's interest in development and coordination of regional land use and transit integration
- Participated in the development of regional Urban Partnership Agreement and Congestion Pricing grant applications

Operations Planner II **1996-2001**

- Designed and implemented service expansions for the North Suburban JARC welfare to work program
- Developed service modifications, expand frequencies, improve connections, and reduce travel times within heavily utilized service corridors
- Monitored individual route schedule, operations and financial performance
- Prepared service proposals for the Northwest Corridor Alternatives study
- Representative at public hearings regarding operating budget and service design
- Trained and provided guidance for new planners
- Reviewed capital planning, IDOT projects for transit improvements

Operations Planner: **1989-1996**

- Service planning of fixed route services
- Coordinated development and implementation of service improvements to new CTA Orange Line including schedule creation within Hastus software
- Analyzed CTA service reductions on shared service corridors, implemented service expansion in markets with highest ridership potential
- Managed service contract bids and performance for private contract carriers
- Corresponded to passenger, municipal, and developer inquiries
- Project manager and team leader for on-board passenger information project

Education

MS – Public Service Management (Area of Concentration: Metropolitan Planning) 2004
DePaul University: Chicago, IL

BA – Urban Studies and Geography/Environmental Planning 1990
Elmhurst College: Elmhurst, IL

RESUME OF

DAVID A. ZAVATTERO

Deputy Director
City of Chicago
Office of Emergency Management and Communications
Traffic Management Authority
120 North Racine Avenue
Chicago, IL 60607
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Fax. (312) 743-7397
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Summary:

Over thirty years progressively responsible positions in the public and private sectors directing and leading engineering, management, design, deployment, and operation of transportation and technology projects and programs. Focused on applying systems engineering to technology and intelligent transportation systems planning, design, deployment, operation, and management. Recognized as the regional and statewide champion for Intelligent Transportation Systems (ITS) and transportation technology applications. National and international reputation for ITS and transportation systems management and operations expertise as evidenced by the numerous invitations to participate in major industry events.

Employment and Major Accomplishments:

2006 to present. Deputy Director, Chicago OEMC, Chicago, IL

Responsible for IT, ITS, traffic engineering, and planning with the Chicago Traffic Management Authority. Major projects include development and deployment of the Chicago Transportation Management Center (TMC) and the citywide traffic signal timing optimization program.

- Direct design, development, deployment, testing, and operation of Chicago TMC
- Develop and manage Arterial Performance Monitoring System project.
- Develop ITS projects, plans, and program.
- Manage traffic engineering projects and staff.
- Oversee system engineering activities and ITS architecture development and implementation.

2000 to 2006. ITS Program Manager, Illinois DOT, Schaumburg, IL.

Manage the office responsible for the development of the statewide Intelligent Transportation Systems (ITS) program for the Department. Includes planning,

budgeting, programming, grants management, project development, technical assistance, and systems engineering.

- Directed development of the Statewide ITS Strategic Plan, Statewide ITS Architecture, and seven major regional ITS Architectures.
- Managed development of the standards-based Gateway Traveler Information System and the www.gcmtravel.com website as the mature multi-modal, real–time transportation and traffic data collection and distribution hub for the three-state Gary-Chicago-Milwaukee (GCM) ITS Priority Corridor.
- Oversaw operation of the regional traveler information website including development and acceptance of new tools and user demand growth to over 15 million page views per month.
- Served as IDOT's representative to the Gary-Chicago-Milwaukee ITS Priority Corridor Coalition.
- Developed successful funding requests and grant applications for dozens of regional and statewide ITS projects.
- Directed and managed development of the strategy and design concept for the statewide Illinois 511 traveler information system.
- Provided technical and engineering support for major ITS deployment and development projects in Illinois, the Midwest, and nationally.
- Major IDOT projects include: the Quad Cities incident management system, the Springfield DMS and CCTV system, the Peoria Advanced Traffic Management System (ATMS), the IDOT Transportation Systems Center ATMS upgrade, the Emergency Transportation Operations Systems automated vehicle location and mobile data terminal upgrade, the IDOT ComCenter upgrade.
- Provided technical support for major regional projects including: the Chicago Traffic Management Center (TMC), and TMC engineering and deployment projects in Lake County, DuPage County, Kane County and Will County.
- Major transit projects include the Regional Transportation Authority Illinois Transit Hub, the Metra Commuter Parking Management System, and the Pace Intelligent Bus System.
- Chaired the Chicago Area Transportation Study (the Chicago Metropolitan Planning Organization) Advanced Technology Task Force.
- Oversaw consideration and use of ITS standards to assure development of integrated and interoperable regional and statewide systems.
- Managed GCM Corridor Gateway Traveler Information System as multi-state TMC Hub including supervision and oversight of consultants.
- Managed ITS Program Office including supervision of technical and administrative staff, training, and budgeting.
- Prepared and managed Requests for Proposals including technical review, contractor selection, and contract negotiations.
- Prepared Congressional ITS budget requests for IDOT senior management.

1993 to 2000. Deputy for Operations, Chicago Area Transportation Study (CATS), Chicago, IL

Responsible for Operations Analysis, Transportation Management, Private Sector and Intermodal Programs Divisions of the Metropolitan Planning Organization (MPO) for northeastern Illinois including the Chicago metropolitan area.

- Developed Strategic Deployment Plan as integrated regional plan for Intelligent Transportation Systems.
- Developed and evaluated Transportation Control Measures for air quality.
- Managed transportation engineering and operations planning studies to develop regional Transportation Demand Management, Transportation Systems Management, Intermodal Freight, and Private Sector components of Regional Transportation Plans.
- Developed and directed “Partners for Clean Air” public information and education program.
- Conducted agency, public interest group, community, and business outreach for input to transportation plans and programs.

1992 to 1993. Director of Transportation Planning, CRSS of Illinois, Chicago, IL

- Conducted and managed engineering and planning studies including major analysis of Strategic Regional Arterials.
- Prepared responses to requests for proposals and led interview presentations for the firm.

1989 to1992. Vice President and Director of Planning, Beling Consultants, Joliet and Chicago, IL

- Conducted statewide analysis of public-private partnership for commercialized rest areas including development of business model for implementation.
- Directed major traffic engineering and transportation studies as firm’s technical expert.
- Conducted marketing, prepared project proposals, and led interviews for the firm.

1985 to 1989. Managing Associate, Lester B. Knight & Associates, Inc., Chicago, IL

- Managed feasibility and Phase 1 engineering study of Reversible Lane Access and Control intelligent transportation system.
- Managed economic and transportation development studies including analysis of Southwestern Illinois region.

Prior Positions:

1983 to 1985. Director of Operations Analysis, CATS, Chicago, IL
1981 to 1983. Chief Transportation Planner, CATS, Chicago, IL
1979 to 1981. Chief Planning Analyst, CATS, Chicago, IL
1973 to 1979. Urban Planner I, II and Technical Manager III, CATS, Chicago, IL

Education:

Completed all course work for PhD. Public Policy Analysis, University of Illinois at Chicago.
M. A. Economics, Northwestern University, 1975.
B. S. Industrial Engineering and Operations Research, University of Massachusetts, 1971.

Professional Organizations:

- Intelligent Transportation Society of America (ITS America) – Elected Chair of the Policy, Evaluation, and Advocacy (PEA) Forum,
  Member of the ITSA Coordinating Council, 2005 Annual Meeting Program Committee, INFO Forum, TSOP Forum.
- Intelligent Transportation Society of the Midwest – Vice President, Board of Directors.
- American Association of State Highway and Transportation Officials (AASHTO) – Subcommittee on Systems Operations and Management (formerly Advanced Transportation Systems), 511 National Working Group.
- Transportation Research Board – member of the Intelligent Transportation Systems, Cooperative Vehicle Highway Automation Systems, Regional Transportation Systems Management and Operations, and Traveler Information Committees.
- American Planning Association.
- Institute of Transportation Engineers – Illinois Section.
- American Economics Association.

Statewide, National, and International Participation:

- Numerous publications and presentations at ITS America, American Association of State Highway and Transportation Officials (AASHTO), Transportation Research Board (TRB), Institute of Transportation Engineers (ITE), American Planning Association (APA), ITS Midwest, Engineering Foundation annual meetings, conferences, and workshops, and other organizations and conferences.
- National Cooperative Highway Research Program (NCHRP), Panel Member, Project 03-77, Guidelines for ITS Procurement.
- ITS America Annual Meeting program participant/panelist in Technical, Educational, and Special sessions, and invited speaker at sponsored conferences and workshops.
- ITS World Congress (WC), program participant at 2000 WC-Turin, 2001 WC-Sydney, 2002 WC-Chicago, and 2005 WC-San Francisco.
- Transportation Research Board, Annual Meeting program participant.
- USDOT Peer-to-Peer program, technical expert peer.

- Member National Transportation Communications (for) ITS Protocol (NTCIP) Center-to-Center and ASTM Archived Data User Services ITS Standards Committees.

Awards:

- 1998 Winner of the Pyke-Johnson Award for Outstanding Paper in the Field of Transportation Systems Planning and Administration from the Transportation Research Board.

DAVID A. ZIESEMER, P.E.

EDUCATION:

B.S., Civil Engineering, University of Wisconsin
Various C.E.U, Northwestern Traffic
Various C.E.U., University of Illinois

REGISTRATION/AFFILIATION:

Institute of Transportation Engineers (ITE)
American Public Works Association (APWA)
Illinois Association of Highway Engineers (IAHE)

EXPERIENCE SUMMARY:

Mr. Ziesemer's 33 years of experience with the Illinois Department of Transportation District One include highway management and operation, traffic signal plan design, operation of econolite and eagle traffic signal systems, intersection and interchange design, traffic studies and analysis, legal testimony, roadway plan design and highway construction management.

SPECIAL INTEREST:

I.D.O.T./ University of Illinois Traffic Research Program
Standards and Specifications Committee for Signal Design
I.T.S. Development
Security Development for railroad interconnected traffic signals

EXPERIENCE:

March 2006—Present: Traffic Engineer for the DuPage County Division of Transportation

Dec. 2004 – March 2006: Director of Transportation, Globetrotters Engineering Corporation. Responsible for project management, design, specifications, cost estimates, and project reports for highway and transportation related contracts.

Representative list of contracts include:

- Phase I study of six toll plazas for the Illinois Toll Highway Authority (ISTHA)
- Phase II design of Harlem Avenue and 91st Street
- Phase I study for 25th Avenue Railroad underpass in Melrose Park
- Phase II Chicago Signal Design
- Phase III toll plaza construction for ISTHA

1971 – 2004: Illinois Department of Transportation District One

2002 – 2004: Bureau Chief of Traffic.

Represented the Secretary of Transportation and the District Engineer in matters concerning the safe and efficient movement of traffic on State maintained roadways and expressways. Personally approved all new traffic signal installations and private development access rights. Assured that all proposed designs and geometrics met the requirements of future traffic volumes and area development. This work was accomplished through the management of 200 engineers, technicians, and maintenance personnel. Managed the following sectional units: The Expressway Operations Section, the Traffic System Center, the Programs and Signals Section, the Permits Section, Sign Shops, and the Emergency Traffic Patrol Section.

Representative list of projects include:

- Chicago Transit Authority (CHA) Dan Ryan Project. Coordination of the expressway reconstruction project with the rehabilitation of the CTA transit line.
- Development of a consolidated traffic signal system in Lake County. Together with the Lake County Department of Transportation, 650 state/county/local signals will be combined into one system.
- Provided motorist travel times on all Chicago area expressways with dynamic message signs.
- Coordinated the McCormick Exposition Center expansion with the reconstruction of the I-55 Martin Luther King interchange.
- Coordinated the reconstruction of Routes 58 and 72 with private developers and the Villages of Rolling Meadows and Arlington Heights.
- Planned the reconstruction of Touhy Avenue and Northwest Highway with private developers and the Village of Park Ridge.
- Coordinated the reconstruction of Route 173 with private developers, the Village of Antioch, and Lake County.

2001 – 2002: Traffic Programs Engineer

Managed a staff of more than 30 engineers and technicians, seven consulting firms and responsible for the design and operation of all traffic signals and studio approving the installation of new traffic signals. This position approves all Phase I and Phase II designs assuring that the geometric and design parameters meet the proposed traffic conditions and maximize lane capacity.

Responsibilities also include the development of the annual Roadway Safety Program, and provide expert witness testimony in the Illinois Court of Claims and area county court systems.

1993 - 2001: Traffic Signal Operations Engineer

Responsible for the operation and maintenance of 4,500 traffic signals. Managed a staff of twelve engineers/technicians, three consulting firms, and an electrical maintenance contractor. Operated the largest concentration of closed loop traffic signal systems in the nation with direct communication to 1,800 intersections. The annual budget for the position is in excess of $15 million annually.

1985 - 1993: Traffic Design Engineer

Responsible for more than 300 signal design plans annually. With a staff of ten engineers and technicians, and two or more consultant firms, the design unit also maintains signal guidelines, standards and specifications used by county and municipal organizations in northeastern Illinois. City of Chicago signal review and design were included as part of these responsibilities.

Under Mr. Ziesemer's direction, various City of Chicago intersections were designed, including Michigan Avenue from Oak Street to the Chicago River.

1980 - 1985: Traffic Studies Engineer

Responsible for the preparation of all related studies including: signal warrant studies, intersection design studies, intersection highway capacity analysis, vehicle weaving analysis, accident analysis, speed studies, motorist sight distance studies, school crossing, and pedestrian studies. The studies unit was responsible for the development of the $6 million annual roadway safety program.

1977 - 1980: Expressway and Arterial Engineer

Responsible for the traffic staging of construction projects, signing, pavement marking, parking, pedestrian movements and geometrical designs. During this period was in-charge of the traffic concerns for the Edens expressway reconstruction project.

1971 – 1977: Roadway Design and Construction Engineer

Performed the duties of an entry level and a junior engineer.

Representative list of projects include:

- US6 – LaGrange Road to Cedar Road
- US34 at Cass Avenue
- IL 59 – IL 64 to IL 38
- IL 53 at IL 7
- IL 83 @ 31st Street
- 22nd Street – IL 83 to I-88
- I-355 – I-290 to Army Trail Road
- IL 64 – Lawndale Road to IL 47
- 143rd Street – IL 171 to Cook/ Will Road
- IL 53 – IL 68 to IL 22
- Long Grove Road over IL 53

Appendix 2: Signal Interconnect and Smart Corridor Deployment Summary

UPA Corridor	Arterial Route	Limits	# Signals	ADT Range	Est. Interconnect Design and Construction Cost ($000)	Length (mi.)	Est. Smart Coriidor Design Cost($000)	Est. Smart Corridor Deployment Cost($000)	Est. Smart Corridor total Cost($000)	Est. Total Cost ($000)
Stevenson and Central Area	Pershing	Western to Dan Ryan	15	15300-23300	$3,375	2.8	$364	$1,431	$1,795	$5,170
	Ogden	Kenton to Chicago	25	19900-33600	$5,625	3.5	$455	$1,789	$2,244	$7,869
	Cermak	Kenton to Western	15	14100-23900	$3,375	2.8	$364	$1,431	$1,795	$5,170
Subtotal Stevenson			55		$12,375	9.1	$1,183	$4,650	$5,833	$18,208
I-90 and Central Area	Milwaukee	Albion to Kinzie	53	11100-27500	$11,925	12.3	$1,599	$6,285	$7,884	$19,809
	Elston	Milwaukee to North	15	14800-20100	$3,375	9.3	$1,209	$4,752	$5,961	$9,336
	North	Ashland to Harlem	24	20800-41700	$5,400	3.4	$442	$1,737	$2,179	$7,579
	Madison	Austin to Michigan	48	10400-24600	$10,800	8.9	$1,157	$4,548	$5,705	$16,505
Subtotal I-90			140		$31,500	33.9	$4,407	$17,323	$21,730	$53,230
Total			195		$43,875	43.0	$5,590	$21,973	$27,563	$71,438

Notes: 1) Signal interconnect combined design and construction est. cost at $225K/intersection.

2) Smart Corridor est. design cost at $130K/mile and est. deployment cost at $511K/mile.

/daz1d-oemc/congestion/upa/signal-interconnect-smart-v3.xls

Appendix 3: City-wide Signal Timing Optimization

Priority	Arterial Route	Limits	ADT Range	# Intersections	Est. Cost Signal Timing Optimization ($000)
One	State	Kinzie to Chicago	19700-23100	9	$31.5
	Archer	Oak Park to State	10700-41500	27	$94.5
	Michigan	Water to Oak	42200-43900	14	$49.0
	Dearborn	Kinzie to Division	16100-16400	12	$42.0
	CBD	Van Buren/Wacker/Wabash	7400-34100	73	$255.5
Subtotal Priority One				99	$346.5
Two	Cicero	Peterson to Lexiton	21800-43900	36	$126.0
	Roosevelt	Ashland to Kostner	28100-41300	16	$56.0
	Ashland	Van Buren to Jarvis	4800-40200	52	$182.0
	LaSalle	Jackson to Eugine	7600-39000	38	$133.0
Subtotal Priority Two				241	$843.5
Three	Chicago	Rush to Halsted	18100-27500	11	$38.5
	Chicago	Austin to Grand	11600-21400	16	$56.0
	Halsted	Broadway to 129th	13100-37900	92	$322.0
	Damen	Bryn Mawr to 87th	6900-33500	81	$283.5
	Lake	Austin to Wacker	5600-16000	29	$101.5
	Clyborn	Division to Belmont	15000-17300	17	$59.5
Subtotal Priority Three				246	$861.0
Total				586	$2,051.0

Note: 1) Signal timing optimization est. cost at $3,500/intersection.
2) Total cost over 3 years, or average cost of $684K per year.

/daz1d-oemc/upa-final/signal-/timing-opt-v3.xls